

# FirstGlimpse™

## Complete Your Hi-Def Life



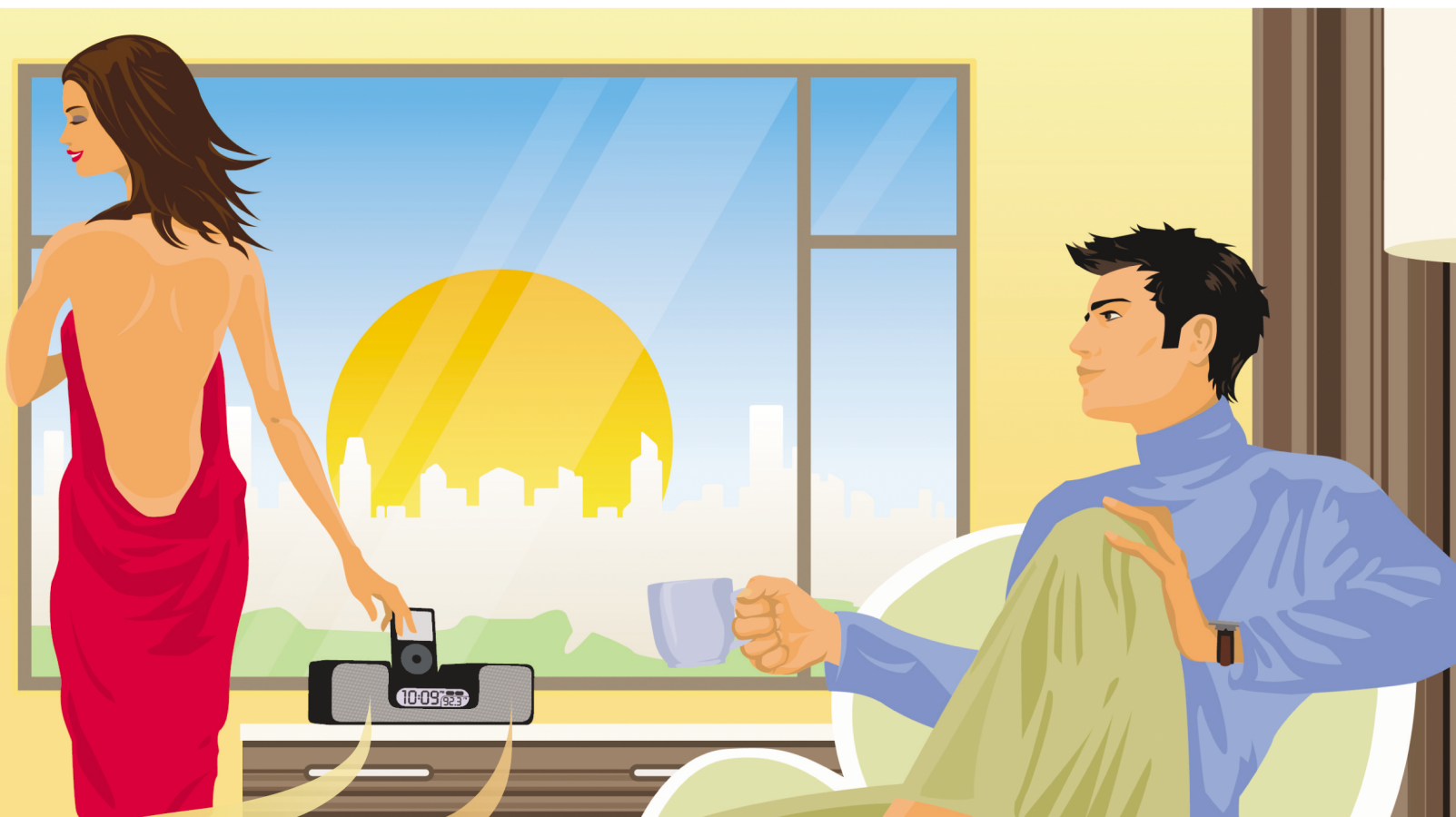
Get the most out of your HDTV!  
JVC's HD Everio GZ-HD7 3-chip camcorder  
captures, records, and plays your videos in  
full 1,920 x 1,080i resolution.  
Find out more on page 10!

### Your Go-To HDTV Buying Guide

### Digital Zoom vs. Optical Zoom

### What To Look For In A Graphics Card

# Live Life Loud™



## iHome™



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## Cover Story

- 10 A True HD Camcorder For Consumers**  
Capture The Beauty Of Full HD With The JVC  
Everio GZ-HD7

On Our Cover:  
Featured on our cover this month is  
JVC's HD Everio GZ-HD7 (\$1,699).

## Open

There's always something new and interesting happening in the world of consumer electronics. You'll hear about it all in *First Glimpse's* Open section.

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## Lifestyle Close-Up: HDTV Buying Guide

Plasma, LCD, 1080i, 1080p, resolution, up conversion . . . after a while, HDTV lingo becomes a bit confusing, which makes shopping for one especially challenging. This month's *First Glimpse* features a special section on how to find the perfect HDTV for you, your family, and your home.

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## Home Theater

Everyone wants a sleek, stylish HDTV to accent his or her home, but many folks just don't know where to start when it comes to actually buying one. Whether you're looking for a quick glossary of terms, shopping tips, or must-have accessories, check out Home Theater for quick tips on making your hi-def experience the best it can be.

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Technology; Plasma, LCD; Microdisplay

## Digital Imaging

Digital cameras and camcorders are changing the way we record the moments of our lives, from quick snapshots of favorite vacation spots to priceless video clips of first steps and other important milestones. Get to know your new digicam or camcorder and learn what to do with your photos and video once you have them.

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Whether you love 'em or hate 'em, almost everyone uses a computer sometime during his or her day. Even if you don't, chances are your spouse or kids do. In this section, you can familiarize yourself even more with this ubiquitous CE device, and we'll also lighten things up a bit with monthly looks at cool notebook computers and home printers.

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## Wireless

We're willing to bet that you can't part with your cell phone, iPod, or both. In this section, we'll tell you about everything you need to know about mobile phones and their service plans, and we also cover MP3 players and the cool accessories that go with them. If you love the feeling of freedom you get with no wires or cords, this section is for you.

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## CE Lite

Most CE devices are all about fun. Check out each month's Exit page for cool gift ideas for loved ones—and for yourself.

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## Editor's Note

I'm willing to bet most *First Glimpse* readers are in the market for a gift for Mother's Day or Father's Day lately. Last month's issue was full of must-haves for moms, dads, and grads, so check out that issue for great gift ideas. But perhaps the folks on your list this year are in one of two very special categories: They're either new parents or parents to be. Here at Sandhills Publishing, we happen have a lot of both right now, myself included in the latter category. Here's what a few of us say we'd love to receive for Mother's Day or Father's Day.

Carrie Benes is *First Glimpse*'s lead designer, and she and her husband James are expecting their first baby later in June. At the top of their list is a nice digital camcorder, and she says that a 1GB CompactFlash card, tripod, and Canon's Digital Rebel XT are up there, too. I also loved her idea of a gift certificate to a photo-printing Web site, so she can print gorgeous photos of her little one on big artist canvas (an option many sites now offer).

Another colleague, Raejean Brooks, is an editor for one of our sister publications. She and her husband Jason are busy with their two little girls, Ella and Amelia, who are their favorite photography subjects. Raejean would love to receive a nice, good-quality photo printer so she doesn't have to run to the store or order online every few days; Jason wants Nikon's Coolscan V ED Film Scanner to organize and archive all the photos of the kiddos they took with their film camera.

A *First Glimpse* illustrator, Jason Codr, and his wife, Theresa, will welcome a baby this August to join their daughters, Karly and Emma. Jason's list is short and sweet: This creative-minded daddy wants Canon's EOS D40 D-SLR camera to document every aspect of his kids' lives.

As for myself, I would love to get an HD camcorder, not only for recording our baby's "firsts," but also to preserve the day-to-day little moments that will be over so soon. Hmm, the JVC Everio GZ-HD7 on our front cover this month would be perfect. . . .

Live well, friends.



Katie Sommer  
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## First Glimpse Special Product Section

This special product section is produced in partnership with leading consumer electronics manufacturers and allows us to provide readers with the most timely product information possible. Browse through these First Glimpse pages to learn about the latest hot products.

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## JVC HAF120 Gummy Headphone

MSRP: \$9.99

[www.jvc.com](http://www.jvc.com)

Available at select Best Buy™ stores and [www.bestbuy.com](http://www.bestbuy.com)



## JVC Ear Candy: A Non-Fat Confection For Your MP3 Player Or iPod

Stay stylish and comfortable with JVC's Gummy earbuds, available in a variety of mouthwatering colors. They're constructed with elastomer, a new type of material that promises a consistently comfy fit, whether you're biking, running, or just lounging in the sun. They're so affordable you can get a pair in every color!

### Other features include:

- Frequency response: 16,000 to 20,000Hz
- Sensitivity: 109dB/mW

- Cord length: 3.9 feet
- Weight: 0.19 oz.
- L-shape gold-plated plug

# JVC

The Perfect Experience / —



JVC GZ-MG555

MSRP: \$899

[www.jvc.com](http://www.jvc.com)

Available at select Best Buy™ stores and [www.bestbuy.com](http://www.bestbuy.com)



## Be Prepared In Any Environment

If you're in the market for a digicam that offers advanced shooting features, look no further than the GZ-MEG555 from JVC. Its 5.4MP CCD with primary color filter, 10X high-resolution multicoated lens, and 4X oversampling will create videos and photos that always look their brilliant best. You can shoot in a variety of settings with the Program AE Dial, which offers Shutter Priority, Aperture Priority, Spotlight, Snow, Sports, Portrait, Twilight, and Auto/Manual modes, or you can utilize the neutral density filter for bright outdoor surroundings.

### Other features include:

- Accessory shoe for optional microphone use
- Mic Input Terminal, which can supply power to mounted microphone

- Built-in flash to improve lighting conditions in dim environments
- High-resolution, multicoated, multiaspheric 10X zoom lens
- Large 5.4MP CCD with primary color filter
- Low video noise and vivid color with JVC's 4X oversampling
- Program AE Dial with Shutter Priority, Aperture Priority, Spotlight, Snow, Sports, Portrait, Twilight, and Auto/Manual modes
- Neutral density filter corrects filming in extra-bright conditions
- Video light for shooting in dark surroundings

**JVC**  
The Perfect Experience

## JVC Everio GZ-MG130

MSRP: \$499

[www.jvc.com](http://www.jvc.com)

Available at select Best Buy™ stores and [www.bestbuy.com](http://www.bestbuy.com)



## As Family-Friendly As It Gets

With its long recording time, quick shooting response time, high optical zoom magnification, and much more, the Everio GZ-MG130 is a friendly on-ramp to the world of hard drive camcorders.

It's equipped with an industry-leading 34X optical zoom for incredible magnification with full optical quality. Another big plus is the ability to access a multitude of functions with the four-way, one-finger control.

The GZ-MG130 also features a 1-second startup time, as well as an SD/SDHC memory card slot. With remote control operation, you can connect the Everio to a TV and operate it from a distance, just like a DVD player.

### Must-Have Accessory: JVC CU-VD20 Share Station DVD Burner (\$199)

#### No PC Required!

The CU-VD20 Share Station DVD burner for your Everio is perfect for burning DVDs of your footage without having to use a computer. High-speed transfer means you'll be able to burn a DVD in about half the time that you normally would, with one-touch simplicity. You can also position it horizontally or vertically to fit your desk space.

# JVC

The Perfect Experience /



## JVC HD Everio GZ-HD7

MSRP: \$1,699

[www.jvc.com](http://www.jvc.com)

Available at select Best Buy™ stores  
and [www.bestbuy.com](http://www.bestbuy.com)



## Achieve Flawless HD Video

JVC's HD Everio GZ-HD7 is the world's first consumer camcorder to offer full HD 1920 x 1080i resolution recording and playing capabilities. This high resolution is maintained all the way from the lens and CCD, to MPEG-2 Transport Stream video with MPEG-1 Layer-2 audio, to video output via HDMI, i.LINK, or USB 2.0.

Your most cherished memories are best captured with and preserved in bright, realistic colors and smooth tilts and pans, and the GZ-HD7 does both with three primary color CCDs and Fujinon mounting technology. The GZ-HD7 also has a professional-grade 10X optical zoom lens from Fujinon, a leader in HD optics in both the broadcast media and motion picture industries. The lens is coated with EBC (Electronic Beam Coating), which prevents light reflecting off the lens surface, thus greatly reducing video flaring and ghosting. Signal degradation caused by electronic image stabilization, which can be a noticeable flaw in HD footage, is prevented with the GS-HD7's optimal image stabilization feature.

The GZ-HD7's 60GB hard drive can hold five hours of HD content and seven hours of HDV-quality video. It has HDMI, DV, USB 2.0, i.LINK, composite video out, S-video out, and component video outputs.

### Must-Have Accessory: HD Everio Share Station CU-VD40 (\$399)

Connect the HD Everio Share Station CU-VD40 to your Everio GZ-HD7 camcorder, and you can easily archive your HD footage to DVD-R/-RW discs via a USB 2.0 cable. Dual-layer DVD-R and digital JPEG stills are also supported by the CU-VD40, allowing you to make a seamless transition between your camcorder and recording media. HD video can be burned onto Blu-ray discs with the included PowerProducer software and a high-definition Blu-ray recorder. The CU-VD40 has an HDMI output, which lets you enjoy ultra-high quality playback without the use of a computer or the JVC HD Everio GZ-HD7 camcorder.

**JVC**  
The Perfect Experience

## Canon PowerShot SD1000

MSRP: \$299.99

[www.canonusa.com](http://www.canonusa.com)

Available at select Best Buy™ stores and [www.bestbuy.com](http://www.bestbuy.com)



## Chic, Modern & Minimalist, Yet Sophisticated

Canon looked to the very first ELPH for inspiration when designing the PowerShot SD1000 Digital ELPH, and it came up with a quintessential iteration of the icon: slim, clean-lined, and fully flat. Inside, the SD1000 Digital ELPH looks only to the future: 7.1MP, a 3X optical zoom, and advanced DIGIC III ensure top-quality images, while focus is fast and sharp and red-eye is automatically corrected. The large and more colorful LCD now has a tough, antireflective coating that makes it as durable as it is beautiful.

### Other features include:

- Slim, stylish, 7.1MP Digital ELPH with 3X optical zoom lens
- Chic, modern minimalism in the ELPH's classic Box & Circle design in two color variations to suit your personal style
- DIGIC III image processor with improved Face Detection technology and red-eye correction for sharper images and improved functionality

- Vivid, high-resolution 2.5-inch PureColor LCD with scratch-resistant, antireflection coating for easy on-camera viewing
- ISO 1600 and high ISO Auto to reduce image blur and expand low-light shooting capability
- Five movie modes, including 30fps VGA, Time Lapse, and Fast Frame Rate
- Print/share button for easy direct printing and downloading, plus ID Photo Print and Movie Print with select PIXMA photo printers, CP and SELPHY compact photo printers

# Canon



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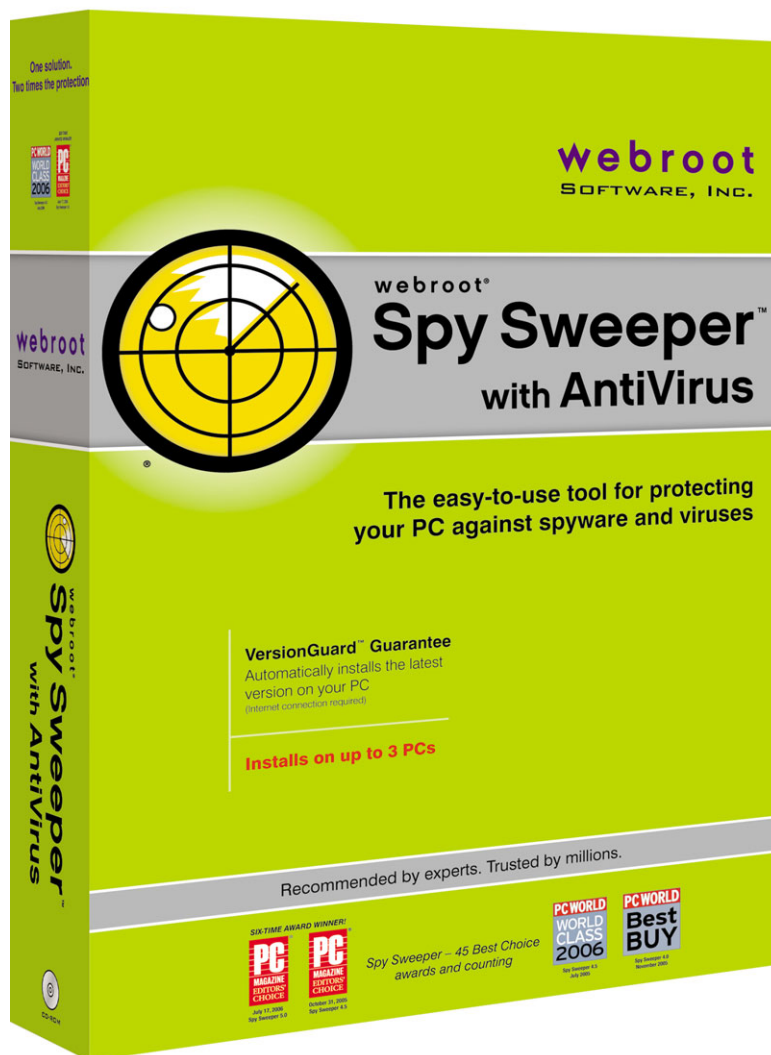
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Additionally, Webroot Spy Sweeper with AntiVirus uses advanced smart shields that can detect, remove, and block Internet viruses, spyware, and worms in real time—ensuring overall system performance.

### Other features include:

- Award-winning antispyware and powerful antivirus protection
- Effective, easy-to-use protection from the most dangerous Internet threats
- Automatic defense updates keep you protected from the latest threats
- Windows Vista™ compatible

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# A True HD Camcorder For Consumers

Capture The Beauty Of Full HD With The JVC Everio GZ-HD7



T

he debut of the JVC Everio GZ-HD7 camcorder (\$1,699; [www.jvc.com](http://www.jvc.com)) marks a series of firsts for consumers. It's the first full high-definition camcorder for consumers. It's the first time a Fujinon lens, a professional-grade lens used in the film and broadcast industries, has been included in a camcorder for consumers.

And, along with complementary products from JVC, such as the CU-VD40

Everio DVD Burner (\$399), it's the first time consumers have a complete package for creating, viewing, storing, and playing full HD content.

JVC spokesperson Ken Mendez compares this trio of products to a three-sided pyramid, noting that JVC is the only company that offers consumers all three aspects of the full HD experience: a camcorder that captures, a DVD burner/player that stores and plays, and LCD TVs that display images in true HD.

## Think 1920

Consumers have been conditioned to believe that full HD is represented by the number 1080—as in 1,080 pixels of vertical resolution. They know it's better than another common HD resolution, 720.

As Mendez explains, full HD resolution is 1,920 x 1,080, which represents the maximum amount of pixels found in an image created by, or viewed with, an HD camera or display. However, he says,



many of the products that are marketed to consumers as true HD have a resolution of 1,440 x 1,080. "1080 is marketed as the magic number for customers, but it's not full HD," Mendez said. This groundbreaking camcorder enables consumers to capture video in full, true HD.

Capturing HD images on the GZ-HD7 is the Fujinon lens, another breakthrough. According to Mendez, the Fujinon lens is one of two brands of lenses that professional filmmakers and broadcasters use. It is made especially for capturing HD images. In addition, the lens is covered with Electronic Beam Coating, a technology that allows for more light input—resulting in brighter images, sharper detail, and better color resolution. (See "The Benefits of 3CCD Systems" sidebar.)

The GZ-HD7 does not come with a built-in light or exterior flash, though it is capable of recording images at night, Mendez says. However, the camera has a universal accessory shoe that makes it capable of working with lighting products.

JVC offers other accessories, such as the GL-V0746 wide conversion lens (\$249.95), the GL-V1846 tele-conversion lens (\$249.95), the MZ-V8 stereo microphone (\$159.95), and the CB-VM50 carrying case (price unavailable at press time). Included with the camcorder are a battery pack, AC power adapter, lens cap, remote control, image-editing software, and a type A mini USB cable.

## Preserve Your Footage

The GZ-HD7 has a 60GB hard drive. Shooting in full HD mode, you can hold about five hours of video or thousands of still photos (see "Shooting Still Images" sidebar). Once you've captured those images, you need to burn them to a disc.

Enter the CU-VD40 Everio burner, the second side of JVC's HD pyramid. The burner, which comes with a USB cable for connecting to the GZ-HD7, can write to

## The Benefits Of 3CCD Systems

One of the most important elements in a camcorder is the CCD (charge-coupled device). You'll see camcorders with a single CCD system and those with a 3CCD system. What's the difference?

In simple terms, it's the difference between having one brain and three brains, JVC spokesperson Ken Mendez explains. A CCD, which is an image sensor, acts as a camera's brain. To create any image, three colors are required: red, green, and blue. With a single CCD system, one sensor sees all three colors and interprets them. With a 3CCD system, one sensor is dedicated to see and interpret each color, resulting in three times as much color information, according to Mendez.

The result for consumers is that a 3CCD system can derive a lot more detail in the images it captures. ●

## Shooting Still Images

When taking still pictures with the Everio GZ-HD7, you can pick from one of four resolution settings: 1,920 x 1,080, 1,440 x 1,080, 1,024 x 768, and 640 x 480. Depending on the size of card you use, these are the estimated number of images you can store:

		IMAGE SIZE (IN PIXELS)			
		1,920 x 1,080	1,440 x 1,080	1,024 x 768	640 x 480
CARD SIZE	1GB	1,080/1,720*	1,440/2,270	2,850/4,540	7,140/9,999
	2GB	2,160/3,440	2,880/4,450	5,700/9,080	9,999/9,999
	4GB	4,320/6,880	5,760/9,080	9,999/9,999	9,999/9,999

\* Approximate picture counts are given for both Fine and Standard image mode (Fine/Standard).

DVD-R/RW/R DLs when it's connected to the camcorder. In addition, the burner can connect to a PC running Windows XP Home/Professional, so you can record content from your computer on the DVD formats mentioned. It can read other types of DVDs and CDs when connected to the PC, as well.

## Sit Back & Enjoy

It would be pointless to capture and store images in full HD if you couldn't then view them in true HD resolution. To complete the third side of the HD pyramid, JVC's flat-panel LCD TVs in the FH and FN series (\$2,499.95 and up) display images in 1,920 x 1,080 resolution.

These TVs have displays in the 40- to 46-inch range and are digital cable-ready. They are gorgeous, too: The FH models, for example, stand out with two-tone silver-and-black cabinets.

## Pyramid Complete

The beauty of JVC's HD pyramid is that it takes the guesswork out of assembling a complete set of compatible tools for creating, storing, and enjoying your home movies. Each element has full HD capability and complements other components, letting your home movies burst with fine details and rich color. **FC**

BY RACHEL DEROWITSCHE

# ce news

COMPILED BY RACHEL DEROWITSCH

## Xbox 360 Elite

The newest additions to the Microsoft gaming family, released in April, gave gamers flexibility in building their systems. For an entirely new gaming system, the Xbox 360 Elite (\$479.99; [www.xbox.com](http://www.xbox.com)) has it all: a sleek, black console with HD playback in 16:9 aspect ratio; a 120GB hard drive; an HDMI cable; a wireless controller and an Xbox Live headset, both now in black; an Xbox Live Silver membership, and a one-month Gold membership.

However, if you have an Xbox 360 and want to add on to that or upgrade certain features, you can buy some of the Elite components separately, such as the hard drive (\$179.99) and wireless controller (\$49.99). Other available accessories include the play & charge kit (\$19.99), so you can recharge the wireless controller while playing, and the rechargeable battery pack (\$11.99).



## Retailer Acquires Speakeasy

Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) has agreed to buy Speakeasy, the Seattle-based broadband voice, data, and IT service provider that opened the first Internet café in the United States in 1994. The acquisition will be finalized during the first quarter of its 2008 fiscal year, and Speakeasy will operate as a wholly owned subsidiary of Best Buy.

Darren Jackson, Best Buy executive vice president and CFO, said that by buying Speakeasy, his company will be better equipped to service its small business customers, positioning Best Buy as a one-stop shopping source for small business' IT needs.

## Kajeet Expands Distribution Of Cell Phones For Tweens

Mobile virtual network operator Kajeet ([www.kajeet.com](http://www.kajeet.com)) is expanding distribution of its tween-oriented cell phones through more than 500 Best Buy stores and the Limited Too tween clothing outlets. Previously, the phones and prepaid service were available exclusively on the company's Web site.

Kajeet has four phones: the LG 150 (\$49.99; [us.lge.com](http://us.lge.com)), the LG KG 225 (\$69.99), the Nokia 6165i (\$69.99; [www.nokiausa.com](http://www.nokiausa.com)), and the Sanyo Katana (\$99.99; [us.sanyo.com](http://us.sanyo.com)). These phones are a step up from other phones made for children because they offer more adult-oriented features, such as Bluetooth technology, VGA cameras, and speakerphones, although features vary by model.

Kids can download items that Kajeet has screened and deemed age-appropriate, including games (\$4.99 and up). Kids don't need parental permission, but parents can configure the account to monitor and/or restrict what their kids download, if they so choose.

Kajeet phones require no contracts or activation fees, but you'll pay a 35-cent access fee per day regardless of whether your child makes a call. Voice service costs 10 cents per minute, text messages cost 5 cents each, and picture messages cost 25 cents each.



## Best Buy Budgets Half A Million Dollars To Finance CE Recycling Drives

Best Buy has earmarked \$500,000 to fund community efforts to properly recycle CE goods. The company will issue grants, ranging from \$500 to \$1,500, to schools, government agencies, non-profit institutions, and public-private enterprises that sponsor recycling drives. Entities interested in applying for a grant can request an application at [www.bestbuy.com/recycling](http://www.bestbuy.com/recycling).

A Best Buy spokesperson noted that about 90% of the cell phones disposed of in the United States end up in landfills instead of recycling bins or other designated drop-off areas. The company already engages in recycling efforts, such as placing drop-off bins in each Best Buy store for cell phones, rechargeable batteries, and inkjet cartridges, and holds recycling events for these and other CE products in select cities each year.

## Watch iTunes Content In HD With Apple TV

For iPod lovers who wish they could watch and listen to their favorite iTunes content in high-definition on a widescreen TV, the Apple TV (\$299; [www.apple.com](http://www.apple.com)) is just the gadget they need. In fact, Philip Schiller, senior vice president with Apple, compares the Apple TV to a "DVD player for the Internet age."

Using the Apple Remote, the Apple TV lets you wirelessly play iTunes content that you've stored on a PC or a Mac. The Apple TV connects to almost all widescreen TVs; has a 40GB hard drive, which can store approximately 50 hours of video, 9,000 songs, or 25,000 photos; and plays content in HD (720p) resolution. To run the device, you have to have iTunes 7.1 or later and Windows XP with SP2, Windows Vista, or Mac OS X 10.3.9 or later.





## Sales Of Mobile Phones In The U.S. Tops 143 Million In 2006

Sales of cell phones in the United States surpassed 143 million last year, according to the NPD Group. The research firm also estimates that sales of phones reached \$8.8 billion, after promotions and rebates.

Motorola easily led all manufacturers in cell phone sales in the United States, more than doubling the market share of its closest competitors. The NPD Group attributed Motorola's success to the popularity of its RAZR models.

U.S. Mobile Phone Sales, 2006

Manufacturer	Market Share
1. Motorola	33%
2. LG	16%
3. Nokia	15%
4. Samsung	15%
5. All others	21%

## What Happens To Camera Phone Images?

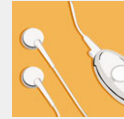
Apparently, consumers aren't using all the high-tech features on their phones, especially not their cameras. PMA Marketing Research shows that the percentage of users who sent camera phone images wirelessly to someone else was at a four-year low in 2006. In addition, the percent of users who even look at the photos they take with their camera phone has dropped.

Just a fraction of users, a mere 4%, bother to print the images they capture with their cell phone cameras.



What Users Do With Images They Take  
With Their Camera Phones

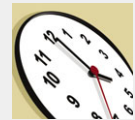
	View Photos On Cell Phone Screen	Transmit/Email Photos Wirelessly
2003	83%	46%
2004	93%	36%
2005	82%	26%
2006	73%	24%



The CE accessories market will **grow by 11%** this year, surpassing the growth rate of the overall CE industry.

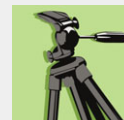
Source: CEA

The peak time when Web users watch streaming video is **5 to 8 p.m.** on weekdays.



Source: comScore

Consumers in the United States and Western Europe buy an



average of \$260 worth of accessories for each **digital SLR** camera, compared to just \$2.38 worth

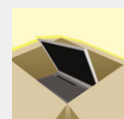
of accessories for each compact digital camera.

Source: Understanding & Solutions

iTunes holds a 70% share among PC households using a legal music-downloading service, even though the average **number of files** bought by iTunes' users fell 11% last year.



Source: The NPD Group



Worldwide shipments of **PCs will grow** 10.5% this year to 255.7 million, with much growth coming in emerging markets and through **mobile PCs**.

Source: Gartner

# Buying An HDTV

## PRELIMINARIES & PREPARATION



n your excitement over finally getting to buy a new HDTV, it's easy to overlook a lot of details that can make the process go more smoothly.

### Research

Before you buy, check out the picture quality of many HDTVs and jot down model numbers you like. Next, go home and go online. Do some research on the TVs' specifications, reviews (including customer satisfaction remarks), and prices before you return to the store to make your purchase.

### Budget

As with any major purchase, an HDTV's price is just the beginning. Factor in the cost of sales tax and accessories, such as cables.

You may want to buy a quality wall mount to hang your new flat-panel TV. And if the TV doesn't have an integrated tuner for OTA (over-the-air) HD broadcasts, you may opt to buy an external tuner and antenna, too.

Finally, weigh the costs of delivery and installation. Another service you could pay for is calibration to make your LCD or plasma look its best in your home's lighting conditions. You can do this yourself with the THX Optimizer (free on recent THX-certified DVDs; [www.thx.com/home/dvd/optimizer/index.html](http://www.thx.com/home/dvd/optimizer/index.html)). For the absolute best results, albeit at a potential cost of a few hundred bucks, let a pro do it. If you choose to use Best Buy's Magnolia Premium Home Theater installation service, ask for the Home Theater Optimization option (\$300).

### Plan

Do some measuring to make sure that your room will have enough space for the new HDTV. Wall space, entertainment center size (and shape), and the viewing distance between the screen and your seat all may play a part in the TV you choose.



If you plan to put your new HDTV where your existing TV sits, you've probably already figured out how you'll have to angle it to avoid glare from windows and light sources. On the other hand, before you mount your latest purchase in a brand-new spot in the room, try moving your old TV there first. Plasmas may reflect more glare than LCDs, so think about adding blinds or window shades where needed.

If you choose to bring your new HDTV home yourself, make sure your vehicle has enough room for the TV when it's packed in its protective shipping box.

### Go shopping

Bring some items to the store with you, such as a measuring tape, a notepad and pen, some questions for the sales associate, and this issue of *First Glimpse*. It can't hurt to also bring competitors' ads or price quotes, as some stores, such as Best Buy, will match a price. **FG**

BY MARTY SEMS

### Be Prepared

At a glance, here are the basics you'll need to consider before buying an HDTV.

- Do your homework: Compare HDTVs in Best Buy stores and online
- Budget for incidentals—they add up
- Plan where the new TV will go and how you'll integrate it into the room

# Your HDTV Isn't HD

UNTIL YOU CONNECT IT  
TO AN HD SOURCE



s the animated leprechaun says in the commercials, breakfast cereal is only part of a complete breakfast. Similarly, your HDTV is just one component of a complete HD system. As you walk the aisles of your local Best Buy's Home Theater section, the HDTVs you see are all connected to an HD source, tuned to a channel that carries HD programming, and playing fully HD shows, movies, and sporting events. When you take home that stunning HDTV and hook it up to your standard-definition TV source, the result can be unimpressive at best.

Before you take your HDTV back to the store and demand a refund, consider the source. To really feast your eyes on HD, you'll need an HD television source to experience your HDTV in all its high-resolution glory. Your regular TV, be it cable or whatever you can pick up with rabbit ears and some expertly-sculpted tinfoil, comes to you at a resolution of 480i with a 4:3, or non-widescreen, aspect ratio and 2-channel stereo sound. The "i" in 480i refers to the interlaced method of displaying video, which uses frames composed of alternating even and odd lines.

With an HD television source plugged into the back of your HDTV, you'll get back the showroom-quality visual and theater-quality audio that first turned you on to the HDTV scene. The primary difference between your old analog television source and an HDTV source is in the ones and zeros. HD sources are digital. Digital signals allow for better clarity and color than analog sources and also allow for the transmission of HD content, which can offer 5.1 surround sound; 16:9 aspect ratios that fill up widescreen HDTVs; and 720p, 1080i, or 1080p



resolutions (depending on your TV). Until you see it from the comfort of your living room, you aren't experiencing HD.

## Make The Leap To HD

When you bought your HDTV, you only took the first step in going HD. Having already spent the big bucks, upgrading to a fully HD signal can be relatively affordable. HD sources include broadcast HD, cable HD, and satellite HD.

## Bottom Line

- Just because you're watching it on an HDTV doesn't mean it's HD.
- Standard definition content, such as analog TV broadcasts, can look awful on your HDTV.
- Not all digital TV is HD.
- A fully HD source is necessary to get the most out of your HD television.

## The HD Source Lowdown

For a steady stream of HD content, your three primary choices are OTA (Over-The-Air), cable, and satellite. Read on for the scoop on what you need to know and what additional hardware you might need to make it work for you. **FG**

BY ANDREW LEIBMAN



## OTA HD

**O**TA (over-the-air) is the way to go to get crisp HD content free, simply by plugging in an HDTV-capable antenna; depending on your distance from the source of the signal, you may need a signal amplifier, too.

**What You Need To Know:**

- No additional wiring required
- No monthly subscription necessary
- Must have a strong signal to even be viewable on your HDTV
- Major networks, such as ABC, CBS, NBC, FOX, and PBS offer HD programming
- Not all shows on OTA HD channels are broadcast in HD
- Most prime time (from 7 to 11pm) programming is HD
- Access to OTA HD channels depends on local availability; check antennaweb.org
- Expect lots of OTA HD channels if you live in or near a major city
- Expect fewer OTA HD channels if you live in a rural area

**What You Need:**

- HDTV set with a built-in ATSC tuner or
- HD-capable TV (no built-in tuner) and a standalone ATSC tuner
- Local HD broadcast availability
- OTA HDTV-capable antenna (see antennaweb.org for help in choosing an antenna)

## Satellite HD

**C**urrently, satellite services from DirecTV ([www.directv.com](http://www.directv.com)) and Dish Network ([www.dishnetwork.com](http://www.dishnetwork.com)) offer loads of HD programming. Satellite subscribers, going HD is easier than you think.

**What You Need To Know:**

- Requires a subscription to a satellite provider such as DirecTV or Dish Network
- Subscription to HD content package likely requires an additional fee
- Existing subscribers may need to upgrade their equipment and wiring to handle the HD source
- New subscribers typically require professional installation for the satellite dishes and wiring
- Inclement weather can sometimes limit the satellite's ability to receive signals
- Availability of local HD programming might be limited
- Local channels in HD may cost extra

**What You Need:**

- HDTV or HD-capable TV
- An unobstructed southern exposure
- DirecTV or Dish Network subscription
- HD-capable satellite dish and receiver, DVR, or set-top box
- HD-rated wiring, typically provided and installed by your satellite operator

## Cable HD

**Y**our local cable company offers a range of HD programming options. If you currently subscribe to analog or digital cable, upgrading to the HD service can be an easy way to get the complete HD package.

**What You Need To Know:**

- The HD channels cable providers offer can vary greatly from one geographic region to the next
- Digital cable is not HD
- Digital cable is required to get HD programming
- Existing subscribers with analog cable service will need to upgrade their set-top boxes or DVRs and in-home wiring
- Existing subscribers with digital cable may need to upgrade their set-top boxes or DVRs and in-home wiring
- Rent an HD-capable set-top box rather than buy it
- HD content packages are typically added on to a base digital cable subscription for an additional fee

**What You Need:**

- HDTV or HD-capable TV
- HD-capable DVR or set-top box
- Subscription to digital cable and HD package
- HD-rated wiring, typically provided and installed by your cable operator

# LCD vs. Plasma

## THINK THIN FOR YOUR NEXT HDTV



When shopping for a new flat-panel HDTV, choosing between a plasma display and an LCD can be a tough call. To help you settle on the perfect showpiece for your home theater, refer to the chart below for the nuances that distinguish these flat-panel display types.

BY ANDREW LEIBMAN

		LCD	Plasma
Lifestyle Considerations	Affordability	Slightly more expensive than comparably sized plasma displays	Slightly more affordable than comparably sized LCDs
	Room Type	Ideal for small to medium-sized rooms	Better suited to larger rooms
	Ambient Light	Perform well in rooms with bright ambient light	More likely to produce glare in rooms with bright ambient light
	Mounting	Light enough to mount yourself	Mounting a plasma is a two-person job
Physical Considerations	Size	Available in sizes from roughly 13 to 52 inches	Available in sizes from roughly 37 to 65 inches and larger
	Thickness	2 to 5 inches	3 to 5 inches
	Weight	Relatively lightweight	Somewhat heavier than LCDs
Picture Quality	Black Levels	Somewhat poor black levels can make images that are supposed to be black appear dark gray	Excellent black levels
	Brightness	Excellent brightness	Excellent brightness
	Contrast	Lower contrast between dark and light images and colors compared to plasma	Excellent contrast between dark and light images and colors
	Image Consistency	Brightness and picture clarity can suffer when viewed from an off-center position	Display consistent brightness, even when viewed at an angle
	Response Time	Slow response times can produce blurring when displaying fast motion	Generally exhibit excellent response times
Watch Out	Viewing Angle	Offer excellent viewing angles of 170 degrees or better	Offer excellent viewing angles of 170 degrees or better
	Burn-in	No risk of image burn-in	Some risk of burn-in exists, but it is generally avoidable and often not permanent
	Stuck Pixels	Can suffer from stuck pixels that only display a single color	No risk of stuck pixels
	Lifespan	Generally offer 12 to 16 years of use under normal viewing conditions	Slightly shorter lifespan than LCDs, but will last well over a decade under normal viewing conditions

# Q&A

## RESOLUTION CONFUSION

It used to be so simple: TV was TV. But when HDTV brought high-definition video into the living room, it didn't just offer a new level of detail in a 16:9 widescreen; instead, it bewildered consumers with four new choices of video quality called 720i, 720p, 1080i, and 1080p. Let's try to clear up some of the confusion.

**Q** What do the numbers 720 and 1080 mean?

**A** These figures tell you the number of horizontal lines in a frame of video. A standard TV in the United States has an analog picture that's 480 lines (horizontal rows) tall. DVD fits standard TVs with a resolution of 720 x 480, or 720 pixels (picture elements) wide x 480 pixels tall (which fits the 480-line picture height of a traditional TV). A DVD player can stretch the image to 852 x 480 for a widescreen TV. HDTV has a much higher pixel count, which means that its picture is more detailed. 720 format video has 1,280 x 720 pixels, while 1080 format video measures 1,920 x 1,080. BD (Blu-ray Disc) and HD DVD movies currently contain up to 1080 video. An HDTV and/or the HD DVD or BD player should be able to automatically adjust the picture to the screen.

**The Bottom Line:** The higher the number, the finer the detail—but image quality really depends on the TV and source video.

**Q** What do the "i" and "p" in 720i, 720p, 1080i, and 1080p stand for?

**A** These letters indicate how an HDTV displays each line in a frame of video. For interlaced video (720i and 1080i, and also 480i in



standard definition TV), such as most TV shows, the HDTV alternates between refreshing the odd and even lines of each frame. With progressive scan video, such as most film transfers, the TV will update each line of a frame in order. One advantage of the 720p and 1080p progressive resolutions is a sharper image. Also, when fast objects such as athletes and spaceships move around on the screen in 720p or 1080p video, they won't seem to have staggered edges as they will in 720i or 1080i. On the other hand, interlaced 720i and 1080i video usually have higher frame rates, meaning that an interlaced picture on some TVs may seem more fluid because it will update up to twice as often as in progressive scan video. Also note that some HDTVs may look better in 720p than others will in 1080i.

**The Bottom Line:** During scenes with motion, 720p should look better than

720i, and 1080p should look better than 1080i—but this, too, depends on the TV and source video.

**Q** What does it mean for an HDTV to have 1,366 x 768 or 1,920 x 1,080 resolution?

**A** Each set of numbers tells you how many pixels an HDTV has, which is its native resolution. Although an HDTV with a resolution of 1,920 x 1,080 can display lower (and sometimes higher) resolution video, the television will look its best showing video at its native resolution, meaning 1080p or 1080i on a 1,920 x 1,080 set or 720p or 720i on a 1,366 x 768 screen.

**The Bottom Line:** A TV with 1,920 x 1,080 resolution and that's 1080p-compatible offers HDTV at its best.

**Q** Do I have to buy a certain size of HDTV to get a 1080i or 1080p picture?

**A** At press time, the smallest 1,920 x 1,080 screens measure 40 inches diagonally. (Some 1,366 x 768 HDTVs can "down-scale" 1080i/p video to 720i/p fairly well, though.)

**The Bottom Line:** Right now, true 1080i/p models run 40 inches and up. **FC**

BY MARTY SEMS



# Screen Sizes & Optimal Viewing Distances

## GAUGE WHERE TO SIT



our TV can be too big—or at least, too big for rooms of certain sizes. An HDTV that looks modest in a large show-room can suddenly look massive once you get it home. However, the real story is how far you'll be sitting from the screen when you plop down to watch it.

Experts recommend that you buy an HDTV of a particular diagonal screen size based on the distance between your eyes and the screen. Larger HDTVs typically have larger **pixels** (picture elements) than smaller TVs with the same **resolution** (number of horizontal and vertical pixels). If you're too close to an LCD or plasma TV, on-screen objects will have jagged edges instead of smooth lines. Stand back another few feet, and the picture will smooth out noticeably.

On the other hand, if you have a big living room, it's possible to sit too *far* from an HDTV, too. If you're 15 feet away from a 42-inch LCD, a 1080p picture may look no sharper than a 720p image or a traditional TV set. Think about buying a bigger set—or moving the furniture closer.

Have a helper sit on your sofa in the typical spot where you watch TV. Next, have him hold the end of a tape measure near his face as you extend the tape to the area where the front of the new HDTV will be. Remember that LCD and plasma displays are thinner than a traditional tube TV, so that might mean an extra

foot of viewing distance if you're buying your first thin-panel set.

Next, look up our recommended screen sizes in this handy chart. It's based on several formulas, but primarily focuses on a distance that is double the diagonal screen size. Various experts prescribe larger or smaller HDTVs at each distance, so consider our screen size recommendations as starting points. You may prefer a bigger or smaller set, of course.

Every HDTV is different. One brand of 42-inch 1080p may look better at a given viewing distance than another, for example, so compare models in a store. Be sure to stand back at about your expected viewing distance.

Oh, and check out the on-screen image from above, below, and each side. You



don't want an HDTV that looks inordinately darker when you're sitting in a different chair or down on the floor with your kids. **FG**

BY MARTY SEMS

### HDTV Sizes By Viewing Distance

From the breakfast table TV to the home theater widescreen, the size of an LCD or plasma matters. Start your search with the screen sizes in boldface.

Screen To Seat (feet)	16:9 Diagonal Screen Sizes Recommended* (in)
3	15, 19, 20, 23
4	20, 23, 26, 30, 32
6	30, 32, 37, 42
8	42, 46, 50, 56
10	56, 60, 65, 70
12	60, 65, 70+
16	70+

\*At this writing, 1,920 x 1,080 HDTVs (true 1080i/p) start at around 40 inches.

# Myth & Reality

## 5 HDTV MISCONCEPTIONS CLEARED UP

Whether you're asking a friend for advice or listening to an expert at the electronics store, there are a lot of tall tales revolving around HDTV that somehow never seem to lose traction. Here are five not-so-truisms that you can immediately shoot down when the acronyms start flying.

BY TRACY BAKER

<p><b>Myth:</b> Certain DVD players can convert standard DVDs to high-definition.</p>	<p><b>Reality:</b> Although your DVD player may upconvert video signals, the player still isn't capable of producing actual high-definition video images. <b>Upconversion</b> is a process that makes images large enough to fill the screen by adding pixels that weren't there in the first place, so you're seeing artificially enhanced video images, which don't have the detail and clarity that you get with true high-definition content. If you want to watch high-def movies, you'll need an HD DVD or BD (Blu-ray Disc) player, an HDTV, and HD versions of the movies.</p>
<p><b>Myth:</b> A standalone high-definition DVD player is superior to those available for console game machines, such as the Xbox 360 (HD DVD) and PlayStation 3 (BD), because the players in the game machines are software based instead of hardware based.</p>	<p><b>Reality:</b> At this point, all high-definition DVD players—HD DVD or BD—are software-based. This means they use software to decode the HD video feed coming from the disc instead of using dedicated hardware to do the same job more efficiently. Video output quality from a software-based player versus a hardware-based player is theoretically identical, so we'd recommend that you buy a high-definition DVD player based on the features it supports, its user interface, and any other factor you like and don't worry about the method it uses to decode video.</p>
<p><b>Myth:</b> HDMI offers superior video quality compared to DVI.</p>	<p><b>Reality:</b> HDMI is more versatile than DVI because it carries both digital audio and video signal where DVI carries only a digital video signal. For today's 720p, 1080i, and 1080p high-definition video signals, however, HDMI and DVI are equivalent because they both carry exactly the same digital video signal.</p>
<p><b>Myth:</b> 1080i is superior to 720p.</p>	<p><b>Reality:</b> The "i" in 1080i stands for <b>interlaced</b>, which, in a nutshell, means that only half of an image is ever displayed on the screen at any given time. While 1080i has a higher overall resolution than 720p, 720p (the "p" is for progressive-scan) displays the entire image on-screen at once, providing a brighter, more colorful, and often clearer overall picture compared to 1080i. On most HDTVs, particularly models that use all-digital technology, such as LCD, DLP, HD-ILA, SXRD, LCoS, and plasma, 720p will look as good as or better than 1080i, and 1080p will look better than either (assuming the HDTV supports a 1080p signal).</p>
<p><b>Myth:</b> All HDTVs are prone to <b>burn-in</b>, where a bright image left displayed too long gets etched permanently into the screen.</p>	<p><b>Reality:</b> Only plasma and CRT-based HDTVs can suffer from burn-in. Although it remains a problem with CRTs (especially rear-projection sets), modern plasma sets, which incorporate burn-in reduction technologies, are much less susceptible than the older models were. TVs that use LCD, DLP, HD-ILA, SXRD, and LCoS technology are all immune to burn-in, whether they are rear-projection or flat-panel models.</p>

# A/V Shopping Tips

## Home Theater In A Box

BY TRACY BAKER

**T**Vs have become larger and better-looking than older models over the past few years, but one thing hasn't changed: They all have mediocre speakers. Getting big sound to go with your big TV can be confusing and expensive if you try to piece together a surround-sound stereo system yourself, so you may want to consider an HTB (home theater in a box). These often come with everything you need to play the surround-sound tracks found on most of today's DVDs and digital television feeds. Here's what to look for.

If the HTB includes a DVD player, make sure it supports 480p output and can upconvert HD signals to 720p, 1080i, or 1080p. If you already have a DVD player, make sure the HTB can use it; some HTBs integrate the audio receiver into the DVD player, making it impossible to swap out a different DVD player.

Measure your home-theater room before you shop and compare that data against the HTB's speaker wire lengths. Avoid HTBs that integrate wires into the speakers instead of using posts or clips to allow for easy wire replacement. If you need to replace the wires, use a gauge that is equal to or slightly thicker than that of the original wires, but never use a thinner gauge. Some HTBs come with wireless rear speakers, but the audio quality is not as good as that from wired speakers. Additionally, wireless speakers may not take full advantage of some types of surround-sound tracks.

The best HTBs have a center-channel speaker that is larger and more powerful than the left, right, or rear satellite speakers. Most audio, including most dialogue, comes from

this speaker, so you want one that sounds as good as possible.

Only consider an HTB that has a subwoofer and try to get one that's **powered** (it gets its power directly from the wall) instead of **passive** (it gets its power from the receiver). We'd recommend getting an HTB that has crossover controls, which let you adjust the point where low-frequency noises are reproduced by the subwoofer instead of the satellite speakers.

Get an HTB that has as many kinds of inputs as possible so you can connect your other equipment to it. Make sure it supports your TV's best video input (from highest to lowest quality, these include HDMI or DVI, component or VGA, S-Video, and composite).

Manufacturers often seem to focus on the wattage audio equipment uses, but, typically, an average home user should focus more on playback quality and whether the system has enough volume to fill the room in which it is installed. If it's possible, sit in a listening room and audition the HTB before buying it.

## SHOPPING CHECKLIST

### ☐ How long are the speaker wires?

- ☐ Front \_\_\_\_\_
- ☐ Center \_\_\_\_\_
- ☐ Rear \_\_\_\_\_

### ☐ What does the DVD player output?

- ☐ 480p ☐ 1080i
- ☐ 720p ☐ 1080p

### ☐ Can you remove/replace the DVD player?

### ☐ Is the subwoofer powered or passive?

### ☐ Does the HTB have a robust center-channel speaker?

### ☐ What types of audio inputs does the HTB support?

- ☐ Composite stereo
- ☐ Coaxial
- ☐ TOSLINK fiber-optic

### ☐ What types of video inputs does the HTB support?

- ☐ HDMI ☐ VGA
- ☐ DVI ☐ S-Video
- ☐ Component ☐ Composite

### ☐ Are speaker cables included?



# HDTV Shopping Tips

## A Mount For Your Flat-Panel TV

BY MARTY SEMS



ou're not done yet. You've picked out the best plasma or LCD HDTV for your budget, and you can't wait to get it home and hang it on the wall . . . but take a moment to consider the kind of wall mount you'll be happy with later on.

Some HDTV manufacturers also sell wall mounts for their LCDs and plasmas. If you buy a recommended mount that's the same brand as your TV, you can be pretty sure it will fit your set. However, there are several third parties that sell high-quality wall mounts that may have more features and better looks. Some examples are Sanus ([www.sanus.com](http://www.sanus.com)), Vantage Point ([www.vanptc.com](http://www.vanptc.com)), and Chief ([www.chiefmfg.com](http://www.chiefmfg.com)).

You may envision your new HDTV mounted flat against your wall. However, a fixed mount may not be the best way to go. You should buy a mount that allows at least some adjustment, so you can tilt or turn it to get rid of window glare on the screen. If you've bought an LCD, you may find that tilting the screen up or down helps the display look its brightest from your favorite seat. Some extendable (articulating) wall mounts are highly adjustable, but even when folded flat, they may cause your TV to stick out from the wall a little more than you prefer.

Buy a wall mount that will fit the mounting hole pattern on the back of your HDTV. Mounting patterns are named for the distances among the TV's mounting screw holes,

such as VESA (Video Electronics Standards Association) 75 (75 x 75mm), VESA 100 (100 x 100mm), or 100 x 200mm. Bigger HDTVs have wider mounting patterns to spread their weight across bigger brackets. Many mounts have "universal" mounting patterns, but you'll still need to choose a small, medium, or large universal mount depending on the size of your TV.

Before you pick a mount, check your HDTV's specifications to see how much it weighs. Plasmas generally weigh a little more than LCDs, so it's important to choose a mount that can handle the load. And if you plan to hang the mount yourself instead of hiring a professional installer, make sure the mount comes with the right hardware for your type of wall (sheet-rock over wooden studs, brick, cinderblock, etc.).

How easy is it to adjust an adjustable mount? Many mounts force you to mess with locking knobs, but several models from Sanus are adjustable with just a push of your fingers. Some Sanus and other mounts also let you rotate the TV a little, like a steering wheel. This helps you level the set, as it's unlikely that the mount will be perfectly square on the wall.

## SHOPPING CHECKLIST

### ☐ What type of mount do you prefer?

- ☐ Fixed, flat against the wall
- ☐ Adjustable, but low-profile
- ☐ Extends from the wall
- ☐ Hangs from the ceiling

### ☐ Will the mount work with your TV?

- ☐ Mounting hole pattern
- ☐ Weight rating
- ☐ Overall size

### ☐ How adjustable is it?

- ☐ Tilts up or down
- ☐ Turns left or right
- ☐ Rotates for leveling
- ☐ Raises or lowers the viewing height

### ☐ Color

- ☐ Black
- ☐ White
- ☐ Silver

### ☐ Notes

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# Lessons In HDTV

## Making Connections

**E**very HDTV on the market provides a long list categorizing outputs and inputs and presenting your options for making connections to and from the television. There are three main choices for high-definition video, however. We'll discuss the pros, cons, and prevalence of each.

### HDMI

HDMI provides the highest-quality and most-convenient cable connections on the market. A single cable resembling a USB cord, but with a slightly larger jack, HDMI carries digital video and audio on a single cable. This delivers HD-quality pictures (including 1080p) and multi-channel audio for distances up to 15 feet. HDMI cables are usually priced a bit higher than other cables on the market—a basic 4-foot model from Monster Cable ([www.monstercable.com](http://www.monstercable.com)) sells for \$99.99—but they're the best HD connection on the market. HDMI inputs and outputs are becoming more common on all sorts of high-definition components and will be standard before long.

### DVI

DVI (Digital Video Interface) is a video-only digital connection, and it's capable of carrying digital video signals to digital displays without undergoing a digital-to-analog signal conversion that can degrade picture quality. The DVI format is compatible with HDMI connections with a special HDMI-to-DVI cable, such as the Rocketfish RF-G1112 (\$74.99; [www.rocketfishproducts.com](http://www.rocketfishproducts.com)), though

it requires separate audio cables. Many video cards use DVI connections, as well, so you may need DVI cables to use your HDTV as a computer monitor.

### Component

Component cables are a prevalent type of video connection. Each is really a bundle of three separate cables with red, green, and blue connectors. You'll also sometimes find component ports labeled  $Y$  (green),  $P_b$  (blue), and  $P_r$  (red). Progressive-scan DVD players, HD set-top boxes, and game consoles often come with component cables, though you should upgrade to DVI or HDMI if available. Component connections are analog, which means that signals from digital sources (such as DVDs, satellite feeds, or video games) have to be converted to analog during transfer and then converted back to digital for most HDTVs (including plasma and LCD). That conversion process may lead to

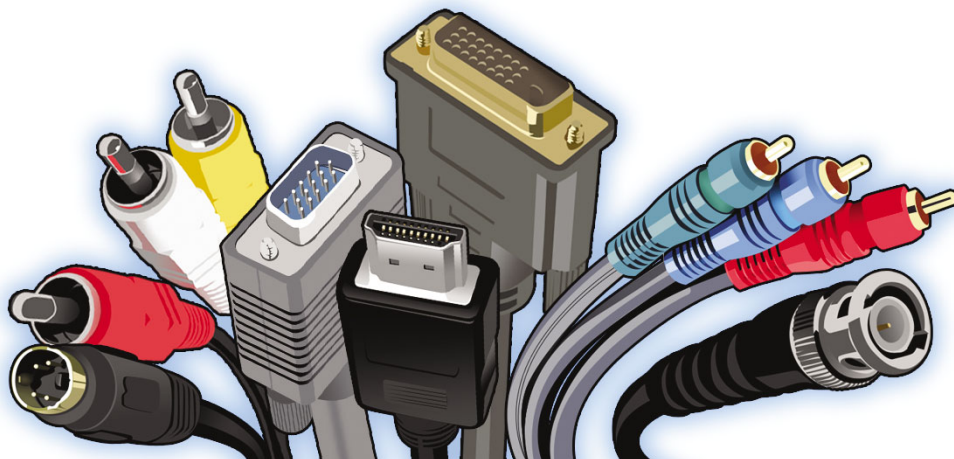
signal degradation and a lower picture quality. Component cables are also pretty bulky (remember, they're actually three cables stuck together) and don't carry audio signals, necessitating at least one other cable to match sound with your picture.

### Others

VGA (also called RGB) and FireWire (also called i.Link or IEEE 1394) also carry high-definition signals, but generally in very specific capacities. You're probably used to seeing VGA connectors on computer monitors and video cards. They're useful for using your HDTV as a spectacular computing display if you have the video card to support it. FireWire mostly connects high-speed, high-capacity A/V equipment, including digital camcorders and storage devices. **FG**

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BY GREGORY ANDERSON



# 5 Must-Have HDTV Accessories

## To Improve Your View



**1** nvariably, as you head toward the HDTV section of your local consumer electronics store, you'll walk right past shelves of bland-looking HDTV accessories. Sure these accessories have multi-channel audio, gold-plated connectors, nitrogen-injected insulation, and fully-articulating mounting arms, but they just can't compete visually with their big-screen, flat-panel HDTV counterparts. Despite outward appearances, however, there are a handful of accessories that are absolutely vital to getting the most from your HDTV.

**1 HDMI cables.** A fully digital source is the key to the pristine HD image you see on your HDTV, whether supplied by a BD (Blu-ray Disc) or HD DVD player, DVR, set-top box, or other HD source. To keep that signal as clean and sharp as possible, you'll need an HDMI cable to span your HDMI-capable devices and your HDTV. This all-in-one cable carries uncompressed digital audio and video signals and supports the HDCP (High-bandwidth Digital Content Protection) protocol so you can view HD video even if it has content protection enabled. Acoustic Research's 6-foot HDMI cable (\$99.99; [www.araccessories.com](http://www.araccessories.com)) is the

perfect accessory to pass your digital signals between devices.

**2 Wall mount.** There's no better way to show off your flat-panel HDTV than to mount it on the wall. Most consumer electronics stores sell a range of wall mounts that can help you show off your flat-panel HDTV. The Sanus Vision-Mount Wall Mount, MF110, (\$199.99; [www.sanus.com](http://www.sanus.com)) is capable of holding flat-panel TVs up to 40 inches and 100 pounds. Once installed (you can always take advantages of Best Buy's Magnolia Premium Home Theater Installation service), you can tilt the HDTV and rotate it up to six degrees in either direction to ensure a perfectly level picture.

**3 Stand.** If you'd rather not drill holes in your walls, a stand is probably a better option. A/V furniture manufacturers have a variety of stands. You can get a triangular corner model, a model that includes a mount for flat-panel HDTVs, and stands that include shelves to handle the rest of your A/V gear. The Bell'O TV Stand AVS-622T (\$499.99; [www.bello.com](http://www.bello.com)) can accommodate HDTVs up to 63 inches and six A/V components on the two glass shelves, and it features a cable-management system to keep your wires tucked out of view.

**4 Surround-sound system.** Although you might not immediately think of a surround-sound system as an HDTV accessory, movies and HD broadcasts, which are capable of 5.1 or better surround sound, will sound flat if you're only using the TV's built-in stereo (2-channel) speaker. For a more visceral viewing environment, pony up for a 6-channel or better surround-sound system. The Pioneer HTS-950NXT Home Theater System (\$999; [www.pioneer-electronics.com](http://www.pioneer-electronics.com)) consists of four floor-standing speakers (two front and two rear), a center channel speaker, a subwoofer, a progressive-scan DVD player, and a remote control.

**5 Universal remote.** Get rid of that mountain of remotes with a programmable universal remote. The Logitech Harmony 880 Advanced Universal Remote (\$249.99; [www.usa.philips.com](http://www.usa.philips.com)) lets you control up to 15 devices in your home-theater system with the touch of a button. The 880 has an unobtrusive docking station for its Li-Ion rechargeable battery, so it'll always be fully charged and ready for you to use, and you can use the remote even as it's recharging. **PG**

BY ANDREW LEIBMAN



# Top 10



**B**uying an HDTV is a big decision. There are myriad options and no shortage of accessory choices. And let's face it—you're spending a whole lot of money. We'll help you cut through the clutter and identify the most important things to consider when shopping for the right set for you and your family.

**1 Consider DLP.** Rear-projection has been around a long time, but a relatively recent incarnation called DLP (Digital Light Processing) is making waves in the high-def world. HD DLP TVs cost about 35% less than plasma or LCD sets with similar screen sizes, and they provide equally spectacular pictures. DLP sets are a little deeper and heavier than flatscreen models (for example, the 56-inch Samsung HL-S5679W DLP TV [\$3,299.99; [www.samsung.com](http://www.samsung.com)] is 15 inches deep and weighs 90 pounds), but in general, they are still considerably smaller and lighter than CRTs. If your room is big enough to warrant a 60-inch television screen, ask yourself if 11 extra inches of floor space is worth a couple thousand extra dollars in the kids' college funds.

**2 HDMI.** With HDMI, a single, slim cord connects your DVD player or digital television receiver to your television. It supports all high-definition resolutions (720p, 1080i, etc.) and maintains a digital signal throughout the process, avoiding the digital-to-analog

# Things To Know

## About Buying An HDTV

conversion that can degrade image quality. It also carries digital multichannel audio, further eliminating the clutter and tangles that come with such a setup.

**3 Buy better cables.** Very few home-theater components, including the most expensive televisions and DVD players, come with quality cables. Plan to spend an extra hundred dollars or so purchasing cables for the highest-resolution formats each device supports (usually HDMI, but DVI and component are also HD-compatible). And don't buy the cheapest or shortest cable on the shelf. Low-quality construction invites electrical interference and unreliable connections, and the cables may not withstand normal wear and tear as well as more expensive ones.

**4 Don't forget the tuner.** As of March 1, 2007, all televisions, regardless of size, must ship with built-in ATSC (Advanced Television Systems Committee) tuners (also called HD tuners). But you may find models without them on store shelves for months afterward. Unless you're certain you'll never want to attach an antenna to grab free local HD programming, make sure your model comes with the tuner.

**5 Don't hang it yourself.** In most cases, it's best to hire a professional to hang your HDTV. A successful wall mount on regular drywall requires the right bracket, a correct alignment to wall studs, and a reliable attachment between the TV and its bracket. Brick or cinderblock walls provide an even

greater challenge. Most electronics retailers offer affordable installation services and usually guarantee their work. Unless you're willing to bet your big new investment on your carpentry skills, bring in the experts.

**6 Upconvert.** Regular DVD players don't output high-definition video. You can purchase a Blu-ray Disc or HD DVD player and wait for the studios to release your favorites. Instead, consider purchasing a player that upconverts with special processing technology that converts SD material into almost-HD-quality signals. Many models, such as the Philips DVP5960/37 (\$89.99; [www.philips.com](http://www.philips.com)), cost less than \$100.

**7 Make yourself at home.** Unless your family room is of warehouse proportions with walls of shimmering TV sets, you may not get the most realistic impressions of HDTVs at the store, unless, that is, you take advantage of Best Buy and other retailers' efforts to recreate realistic home environments in some stores. Try to preview your prospective HDTV in realistic surroundings and bring some of your favorite movies to see how they look on your set before you buy.

**8 Size it up.** Finding a set that works in your room is a crucial part of your purchase. A small room and a couch near the TV means you should invest in a fairly small HDTV; a larger space with plenty of seating for friends and family requires a bigger screen. Use the three-to-five rule to calculate

your optimal screen size. Measure the distance, in feet, from your TV's location to your viewing position. Multiply that number by three, and then by five. Those numbers represent the minimum and maximum screen sizes, measured in inches diagonally, for that space. For example, a 10-foot span from your TV to sofa will accommodate screens between 30 and 50 inches.

**9 Calibrate.** When buying an HDTV, don't forget to factor calibration in to your budget. Any one of several DVDs can walk you through the process, including Joe Kane's Digital Video Essentials (\$24.99; [www.videoessentials.com](http://www.videoessentials.com)). You can also hire calibration from the retailer from which you bought your HDTV (prices vary according to retailer and installation plan). Regardless, the results will be far better than the showroom settings many televisions ship with.

**10 Resolution isn't everything.** There's more to brilliant, sharp pictures than screen resolution; color reproduction, contrast, and refresh rates make a big difference, too. Make sure an HDTV's colors are consistently true to life. Next, watch material that features scenes with both dark and bright areas. Blacks shouldn't appear gray, and bright areas shouldn't wash detail away. Finally, watch action scenes carefully to make sure your new set can handle fast-moving material without jagged edges. **PG**

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BY GREGORY ANDERSON



# HDTV Glossary

**B** alderdash! OK, HDTV jargon isn't *that* bad, but there are a few terms every shopper should know. Here's your cheat sheet.

**aspect ratio**—Put simply, it's the shape of the TV's screen. An HDTV has a wider picture than a traditional TV of the same vertical screen height. An HDTV has a 16:9 aspect ratio, meaning that if its screen were 16 inches wide, it would be 9 inches tall. A regular 4:3 TV screen would be only 12 inches wide at the same 9-inch height.

**HDMI**—High-Definition Multimedia Interface is a new type of cable connection. It can carry both high-resolution video and uncompressed, multichannel audio among HDTVs, home-theater systems, and other components. HDMI cables are pricy, but they maintain top picture and sound quality.

**HD tuner**—Some more expensive HDTVs have a built-in tuner for receiving local high-definition broadcast TV channels. Your TV doesn't need an HD tuner if you have cable or satellite service. Separate HD tuners and antennas are available for HDTVs without them.

**interlaced**—When an HDTV displays an interlaced image, as in 1080i or 720i resolutions, it really shows you every other horizontal line of a frame of video (called a field) at a time. Sixty times a second, the TV displays the other field of the frame, meaning the lines not shown in the previous field. Interlaced video can seem to flicker and cause moving objects on-screen to have blurred edges.

**LCD**—Like a notebook's screen, a liquid-crystal display HDTV uses a fluid crystal



substance to form pixels of color in front of a backlight. LCDs may not be able to match plasma TVs' deep black and gray areas, but they're lighter, sometimes less fragile, and considered easier to set up. LCDs also are catching up to plasmas in size and price and are expected to supplant them in the market.

**plasma**—Plasma TVs use a tiny tube of gas for each pixel. Electricity makes each pixel glow. Plasmas are still available in bigger sizes than LCDs and create deeper blacks and sometimes brighter colors. However, older or less expensive models can also suffer permanent screen damage if an unchanging image is displayed too long, such as a TV channel's stock ticker or parts of certain video games.

**progressive scan**—A TV showing a progressively scanned image, as in 1080p or 720p resolutions, displays a full frame of video (both odd-lined and even-lined fields) all at once. Progressive-scan video

looks sharper and doesn't flicker like interlaced images can.

**projection**—Some large-screen HDTVs offer low-priced alternatives to LCD or plasma by using projection technologies. These technologies vary, but all projection TVs throw light on a screen from the front or rear. This means they're a little to a lot bulkier than plasmas or LCDs, but some rear-projection sets have stellar picture quality.

**viewing angle**—No matter where you sit in front of an HDTV with a wide viewing angle, such as 170 degrees, its picture should look reasonably good. Test this before you buy.

**widescreen**—A TV or monitor that's wider horizontally in relation to its vertical height—typically with a 16:9 aspect ratio for HDTVs—than an older 4:3 display.

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BY MARTY SEMS



## Which Type Of HDTV Is Right For You?

**P**lasma, LCD, and projection: These are the three main types of HDTVs from which you'll choose if you're in the market for a sleek, new set. Refer to our comparison chart below to see how the technologies stack up against each other.

What It Is	What It Means	Plasma	LCD	Microdisplay Rear Projection
<b>Technology</b>	Different types of HDTVs use different technologies; understanding each type can help make your decision easier	Plasma uses a network of cells, each filled with a gas mixture. When the gas is excited, it lights up, and the cells form the image on your HDTV.	Light is streamed through cells filled with a liquid crystal mixture. When charged, the intensity changes, forming the image on your HDTV.	There are three main types of rear-projection microdisplay: DLP, LCD, and LCoS. All use a lamp to bounce light off a chip onto the screen.
<b>Size</b>	The screen's diagonal size	Up to around 63 inches	Up to around 52 inches	Up to 65 inches and beyond
<b>Depth</b>	The depth of the set as a whole	4 to 5 inches deep	4 to 5 inches deep	From around 16 to 22 inches deep
<b>Wall mountable</b>	Can be mounted with a special bracket	Yes	Yes	No
<b>Color reproduction</b>	The brightness, saturation, and black level of an HDTV are some of the most important considerations	Excellent brightness, color saturation, and black levels	Exceptional brightness; very good color saturation; black level quality is improving	Exceptional brightness and color saturation; generally excellent black levels
<b>Ideal room type</b>	Some types of HDTVs fit better in certain rooms than others	Media rooms with various seating areas	Rooms with windows or other ambient light	Larger rooms with a little extra floor space
<b>Cost</b>	HDTV prices range quite a bit depending on the technology	Expensive, though much less so than two years ago	Expensive, but generally less than plasma	Relatively inexpensive
<b>Perfect for</b>		TV fanatic who values picture quality above everything else	Gamers who also love HDTV	Big-screen lovers on a budget
<b>Coollest feature</b>		Excellent response time for high action	In general, can also be used as a PC monitor	Exceptional value for size



Plasma



LCD



Microdisplay Rear Projection



## Which Plasma TV Is Right For You?

If you're planning on buying a plasma HDTV, it might be hard to decide on one just by looking at a wall of gorgeous sets. The most popular size of plasma TV is 42 inches; make sure you'll have a viewing distance of between 5 and 10.5 feet before you invest in one, and refer to this chart for further help when shopping.

What It Is	What It Means	HP PL4260N	Hitachi UltraVision 42HDX99	LG 42PC5D
<b>Size</b>	The diagonal measurement of the TV's screen	42 inches	42 inches	42 inches
<b>Dimensions (without stand)</b>	Height x width x depth	26x53.5x3.75 inches	25.5x45x4.25 inches	29x41x3.5 inches
<b>Weight (without stand)</b>	How much the TV weighs	89.4 pounds	75 pounds	54.2 pounds
<b>Native resolution</b>	The image's sharpness is best when displayed at the native resolution; anything else must be converted	720p	1080i	720p
<b>Built-in HD tuner</b>	An ATSC tuner capable of picking up a digital signal; you need one for hi-def	Yes	Yes	Yes
<b>Viewing angle</b>	The maximum angle at which the viewer can see the screen clearly	176 degrees	N/A	N/A
<b>Inputs</b>	Inputs let you connect your components to your TV	1 HDMI; 2 component; 2 S-Video; 1 RF	3 HDMI; 3 component; 2 S-Video; 5 A/V; 1 RF	2 HDMI; 2 component; 2 S-Video; 1 RF
<b>Outputs</b>	Outputs let information from the TV, usually audio, be transferred to peripherals, such as speakers	1 audio	2 audio	1 audio; 1 video
<b>Coollest feature</b>		Color and brightness enhancement	Picture Master HD III video processor	XD engine for superior brightness
<b>MSRP</b>		\$1,499.99	\$1,999.99	\$1,599.99



HP PL4260N



Hitachi UltraVision 42HDX99



LG 42PC5D



Panasonic TH-42PX75U

	Panasonic TH-42PX75U	Philips Ambilight 42PF7321D/37	Pioneer PDP-4271HD	Samsung HP-S4273	Toshiba TheaterWide 42HP66
	42 inches	42 inches	42 inches	42 inches	42 inches
	27x40x4 inches	27x49x4.5 inches	26.75x41x4.5 inches	28x41.5x4 inches	31x42.5x13.5 inches
	59.6 pounds	83.2 pounds	63.9 pounds	89.1 pounds	90.4 pounds (with stand)
	720p	720p	720p	720p	720p
	Yes	Yes	Yes	Yes	Yes
	170 degrees	160 degrees	160 degrees	175 degrees	160 degrees
	2 HDMI; 1 component; 1 S-Video;	1 HDMI; 2 component; 2 S-Video; 4 audio	2 HDMI; 3 component; 2 S-Video	2 HDMI; 2 component; 1 S-Video;	2 HDMI; 2 component; 1 S-Video; 1 RF
	2 audio; 1 video	1 audio	1 audio; 1 video	2 audio	2 audio
	One-button EZ-Sync technology	Ambilight technology	CableCARD slot & TV Guide On Screen	FilterBright technology	Built-in 20W speakers
	\$1,599.95	\$1,799.99	\$1,999.99	\$2,299.99	\$1,999.99



Philips Ambilight 42PF7321D/37



Pioneer PDP-4271HD



Samsung HP-S4273



Toshiba TheaterWide 42HP66



## Which LCD TV Is Right For You?

**S**o you've decided to get an LCD TV. The next step is deciding *which* LCD TV to invest in. If you're like most people, you're probably looking at a set that's in the 40- to 46-inch range. If you do purchase one of these HDTVs, know that you should be able to sit 5 to 10.5 feet away from it to get the best picture. Refer to this chart for further help when shopping.

What It Is	What It Means	LG 42LC7D	Samsung LN-T4066F	Samsung LN-S4096
<b>Size</b>	The diagonal measurement of the TV's screen	42 inches	40 inches	40 inches
<b>Dimensions (without stand)</b>	Height x width x depth	27x40.5x3.5 inches	26x39x4 inches	25.5x39x3.5 inches
<b>Weight (without stand)</b>	How much the TV weighs	45 pounds	39.5 pounds	70.6 pounds
<b>Native resolution</b>	The image's sharpness is best when displayed at the native resolution; anything else must be converted	720p	1080p	1080p
<b>Built-in HD tuner</b>	ATSC tuner that can pick up a digital signal; you need one for hi-def	Yes	Yes	Yes
<b>Viewing angle</b>	The maximum angle at which the viewer can see the screen clearly	178 degrees	178 degrees	178 degrees
<b>Inputs</b>	Inputs let you connect your components to your TV	2 HDMI; 2 component; 2 S-Video; 1 RF; 2 A/V; 1 PC	3 HDMI; 2 component; 2 S-Video; 2 RF	2 HDMI; 2 component; 2 S-Video; 2 composite; 1 PC
<b>Outputs</b>	Outputs let information from the TV, usually audio, be transferred to peripherals, such as speakers	1 A/V; 1 optical digital audio	1 headphone	2 audio
<b>Cooler feature</b>		Black Stretcher for better black levels	Built-in audio system	Optimized game mode
<b>MSRP</b>		\$1,599.99	\$2,499.99	\$2,499.98



LG 42LC7D



Samsung LN-T4066F



Samsung LN-S4096D



Sharp AQUOS LC-42D62U

	Sharp AQUOS LC-42D62U	Sharp AQUOS LC-46D82U	Sony BRAVIA KDL-40XBR2	Sony BRAVIA KDL-40XBR3	Westinghouse W4207
	42 inches	46 inches	40 inches	40 inches	42 inches
	28x40.5x5 inches	29x44.75x5 inches	26x43.75x5 inches	26x43.75x5 inches	27x42x5 inches
	66.2 pounds	68.3 pounds	66.1 pounds	66.1 pounds	58.4 pounds
	1080p	1080p	1080p	1080p	720p
	Yes	Yes	Yes	Yes	No
	176 degrees	176 degrees	178 degrees	178 degrees	178 degrees
	2 HDMI; 2 component 1 S-Video;	3 HDMI; 2 component; 1 S-Video; 2 composite	3 HDMI; 2 component; 1 S-Video; 3 composite; 1 PC	3 HDMI; 2 component; 1 S-Video; 3 composite; 1 PC	1 HDMI; 2 component; 1 S-Video; 1 DVI; 1 PC
	3 audio	N/A	2 audio	2 audio	1 audio
	High brightness and contrast	Sensor adjusts brightness to match room	BRAVIA PRO light engine	BRAVIA PRO light engine	Low price
	\$2,299.99	\$3,199.99	\$2,999.99	\$3,299.99	\$1,499.99



Sharp AQUOS LC-46D82U



Sony BRAVIA KDL-40XBR2



Sony BRAVIA KDL-40XBR3



Westinghouse W4207

## Which Microdisplay TV Is Best For You?

If you're in the market for a big HDTV, a rear-projection microdisplay model can give you a lot of bang for your buck. Here is a chart that compares eight 55- to 60-inch models, all available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)).

What It Is	What It Means	Hitachi UltraVision 55VS69	JVC HD56FN97	Mitsubishi WD-57731
<b>Projection technology</b>	Depending on the manufacturer, the TV will have DLP, LCD, or LCoS microdisplay technology	LCD	LCoS (JVC's name for it is HD-ILA)	DLP
<b>Size</b>	The diagonal measurement of the TV's screen	55 inches	56 inches	57 inches
<b>Dimensions (without stand)</b>	Height x width x depth	34.25x50.75x18 inches	38x52x17.5 inches	36x51.5x18 inches
<b>Weight (without stand)</b>	How much the TV weighs	86 pounds	92 pounds	96 pounds
<b>Native resolution</b>	The image's sharpness is best when displayed at the native resolution. Anything else must be converted.	720p	1080p	1080p
<b>Built-in HD tuner</b>	An ATSC tuner capable of picking up a digital signal; you need one for hi-def	Yes	Yes	Yes
<b>Inputs</b>	Inputs let you connect your components to your TV	1 HDMI; 2 component; 2 S-Video; 5A/V; 1 RF	2 HDMI; 2 component; 2 S-Video; 4 A/V; 2 RF	2 HDMI; 2 component; 3 S-Video; 2 RF
<b>Outputs</b>	Outputs let information from the TV, usually audio, be transferred to peripherals, such as speakers	2 audio	2 audio	1 audio; 1 video
<b>Stand included?</b>	For a microdisplay TV, you'll need some type of stand	No	No	No
<b>Cooler feature</b>		Picture-in-picture	1080p native resolution	6-color light engine
<b>MSRP</b>		\$1,899.99	\$2,499.95	\$2,399.99



Hitachi UltraVision 55VS69



JVC HD56FN97



Mitsubishi WD-57731



Panasonic PT-56DLX76



	Panasonic PT-56DLX76	Philips 60PL9200D37	Samsung HL-S5687W	Sony Grand WEGA KDF-55E2000	Toshiba TheaterWide 56HM66
	DLP	DLP	DLP	LCD	DLP
	56 inches	60 inches	56 inches	55 inches	56 inches
	36.5x52x17.5 inches	36.5x54.5x18.75 inches	35.75x51x16.5 inches	35.75x51.25x17.5 inches	33.75x52.5x18.25 inches
	75 pounds	81.6 pounds	68.4 pounds	75 pounds	72 pounds
	1080p	720p	1080p	720p	720p
	Yes	Yes	Yes	Yes	Yes
	2 HDMI; 2 component; 3 S-Video; 3 A/V	1 HDMI; 2 component; 2 S-Video	2 HDMI; 2 component; 2 S-Video; 3 A/V	2 HDMI; 3 component; 1 S-Video; 5 A/V	2 HDMI; 2 component; 2 S-Video; 3 A/V; 2 RF
	2 audio; 1 video	1 audio	1 audio	5 audio	2 audio; 1 video
	No	No	No	No	No
	14,000:1 contrast ratio	Pixel Plus processing technology	Hidden speaker bezel design	Cinema Black Pro for better black levels	Antiglare coating on screen
	\$2,699.95	\$2,199.99	\$2,199.99	\$1,899.99	\$1,899.99



Philips 60PL9200D37



Samsung HL-S5687W



Sony Grand WEGA KDF-55E2000



Toshiba TheaterWide 56HM66

## Q&A

### Digital Camcorders

If you're in the market for your first camcorder, there may be a few factors you're still wondering about. Let's answer some of the most common questions shoppers have about camcorders.

**Q:** What is the best type of camcorder: DV tape, recordable DVD, or hard drive?

**A:** That depends on what is most important to you. MiniDV cassettes are widely regarded as producing the best image quality. DVDs and hard drives are more convenient because they provide instant access to individual clips for viewing and fast transfer to a computer. As well, hard drive cams let you shoot many hours of footage before the drive fills up, and you don't need to carry around extra blank media.

**The Bottom Line:** As camcorder technology exists at present, most choices mean a tradeoff between convenience and quality.

**Q:** How much operational time will I get out of a freshly charged battery?

**A:** This can vary, but the stock batteries included with camcorders are often good for only an hour or so of shooting and playback. Some may deliver as much as 2 to 2.5 hours, but you usually need to conserve power by framing shots with the optical viewfinder rather than the LCD. However, for most camcorders you can get an extended-life battery that should provide 4 to 6 hours of power, such as Sony's NP-QM71D InfoLithium M Series Rechargeable Battery (\$99.99; [www.sonystyle.com](http://www.sonystyle.com)).

**The Bottom Line:** If you shoot only for short periods of time, the stock battery should be fine; otherwise, budget for a spare or an extended-life battery.

**Q:** Does the camcorder's lens make a difference in the overall quality?

**A:** Absolutely. A good lens will provide sharp, even focus and have a coating that reduces glare. A poor-quality or, worse, a flawed lens will



likely distort imagery shot through it. Well-regarded lens makers include Carl Zeiss, Canon, and Leica.

**The Bottom Line:** A camcorder's lens is the single most important factor in determining image quality, so look for a camcorder whose lens comes from a reputable manufacturer.

**Q:** What's the best option for shooting in low-light situations?

**A:** Most camcorders provide one of two main options for shooting in dim or no light. One is a small lamp on the front. Most have an effective range of a few feet.

The other option is a night mode based on infrared technology. Infrared usually has a greater effective range (around 20 feet) than a built-in light, although it doesn't yield natural colors; footage may have a monochrome or eerie green cast. For our tastes, Sony's Super Night-Shot option, found on its DCR-DVD508 DVD Camcorder (\$899.99; [www.sony.style.com](http://www.sony.style.com)) and the rest of Sony's Handycam line, is still the best night mode we've seen.

**The Bottom Line:** Whether you go with a lamp or infrared may depend on which you deem more important: shooting range or color accuracy.

**Q:** What's the difference between optical zoom and digital zoom?

**A:** Optical zoom relies only on the magnification power of the lens. Digital zoom picks up where the optical zoom leaves off and digitally enlarges the image to give the appearance of zooming in further.

**The Bottom Line:** Don't be swayed by huge digital zoom specifications; it doesn't take long before the enlargement process starts to degrade the image quality.

**Q:** What's an accessory shoe, and why would I need one?

**A:** It's a small bracket atop some camcorder models, to which you can attach an accessory such as a microphone or more powerful light. A basic shoe simply holds the accessory in place. A hot shoe can also power the accessory and may facilitate synchronized operation or communicate data to and from the camcorder.

**The Bottom Line:** If you want to expand your camcorder's out-of-the-box performance, an accessory shoe will give you the foundation to do so.

**Q:** How will I get footage into my computer for editing?

**A:** If your camcorder shoots to recordable DVD and your computer's optical drive is compatible with the disc, you can pop it into the drive and copy the movie files over. If it shoots to a built-in hard drive or MiniDV tape, you'll hook up your camcorder to your computer with a FireWire or USB 2.0 cable. With a hard drive cam, you can copy the files over; with tape, you'll have to play the footage and capture it with digital-video software.

**The Bottom Line:** Importing footage to your computer will require either a physical transfer of a DVD or connecting your PC to your camcorder with a high-speed data cable.

**Q:** I've watched home movies whose sound was so bad it was difficult to make anything out. How can I avoid this?

**A:** The built-in microphones of some camcorders don't handle noisy environments well, picking up too much ambient sound along with the

## Accessory

Kodak EasyShare Z612  
\$249.95 • [www.kodak.com](http://www.kodak.com)

As mentioned, there's no substitute for a digital camera when you're taking still photos. This EasyShare Z612 has 6.1MP so you'll be able to capture clear, vibrant images, and with its 12X optical zoom, you can zoom in on the action on the soccer field and maintain incredible detail when you print and enlarge the pictures.



subject of the shot. They may also record the motor or drive noise as a constant whine. You can get better audio with an external microphone, such as Canon's DM-50 Directional Stereo Microphone (\$199; [www.usa.canon.com](http://www.usa.canon.com)). Shotgun-style mics are long, thin microphones that are useful in very noisy settings, because they reject sound from the sides and rear and mainly record what's directly in front of them.

**The Bottom Line:** An external microphone will help improve your movies' sound quality.

**Q:** Because most camcorders also take still photos, does this mean I won't need a separate camera?

**A:** That depends on what will satisfy you. Most camcorders take snapshots that are small in file size (2 to 3MB is typical) and of average quality, so they won't enlarge well much past 4x6 and probably won't look as impressive as photos from a still camera.

**The Bottom Line:** A camcorder is just no substitute for a full-featured digital camera with scene modes and other creative controls. **FG**

BY BRIAN HODGE



# Most Important Features In

## A Photo Printer

**T**oday, anyone who works with digital images has a broad range of photo printer options, so it's often difficult to know which one best fits each person's individual needs. Here's an idea of what features and specifications to look for when you buy a photo printer.

**Print size and paper handling.** Photo printers have minimum and maximum print-size capabilities. Small, dedicated photo printers usually max out at 4x6; standard-sized inkjet printers output prints from 4x6 to 8x10. For larger prints (13x19), you'll need a wide-format model. Also check to see what types, weights, and sizes of papers the printer can handle, especially if you want to use thicker/heavier papers.

**Direct printing capabilities.** To forgo a computer when printing your images,

you have two choices: PictBridge and/or media card slots. Most photo printers are PictBridge-enabled so you can print directly from a PictBridge-compatible camera, but double-check the specifications on both. To print directly from your camera's media card, the printer must have media-card slots, such as SD, MMC, Memory Stick, CF, and xD, that support the media card your camera uses. For instance, you may need an adapter to use a Memory Stick Duo or Pro Duo (\$9.99; [www.sonystyle.com](http://www.sonystyle.com)) in the printer's standard Memory Stick card slot.

**Cost of printing.** Although most manufacturers publish a price-per-print for small, dedicated photo printers, these figures are not always available for larger inkjet printers. Regardless of whether the cost-per-print is available, find out how much replacement ink cartridges cost. Consumables, especially inks, are the biggest home-printing expense. A printer with individual ink cartridges for each color is the most economical because you only have to replace the color that has been depleted.

**But will they last?** When you print a picture, you want to know it'll last a long time, especially if you want to pass down the pictures from generation to generation. How long your

### Accessory

Canon PowerShot A560  
\$229.99 • [www.usa.canon.com](http://www.usa.canon.com)

For a good quality PictBridge-enabled camera to grace your printer, you'd do well to consider the Canon PowerShot A560. This 7.1MP camera has 15 shooting modes, including Kids & Pets, Beach, and Fireworks so you can capture all kinds of action shots this summer. It comes with a 16MB MMC card, and it also supports SD and SDHC memory cards.



### Features To Look For In Photo Printers

- 1 Make sure the printer will accommodate the size, type, and weight of papers you want to print.
- 2 You'll need PictBridge compatibility and/or media card slots to print without a computer.
- 3 Make sure you can afford to make the prints you want.
- 4 The paper and ink you use and how you display or store the photos affect their life spans.

prints will last depends on several factors. Most important are the ink and paper combination and how you display or store your pictures. For instance, the life of a print made with the Epson R800 (\$399.99; [www.epson.com](http://www.epson.com)) on Epson Premium Glossy Photo Paper is estimated at 200 years when stored in dark storage, such as an archival album. Display the print under UV glass (which filters out damaging ultraviolet rays), and it should last around 175 years. Display it under plain glass, and the print life drops to about 104 years; a frameless print displayed under a bare light bulb will last up to about 34 years. The tests producing these results were performed under strict lab conditions, so if you stick an inkjet print on your fridge, it may fade more quickly if it's exposed to sunlight, smoke, and other contaminants from cooking. Most manufacturers provide general guidelines for the longevity of their prints, based on how you display or store them. **FG**

BY THEANO NIKITAS

# Storing Digital Photos

## The Mystery Behind Memory Cards

**D**igital cameras use removable memory cards to store photos. Although some manufacturers include internal memory or even a card when you buy the camera, there's usually only enough memory to save a handful of high-quality shots. That means you'll have to download your pictures to your

computer to clear space for new photos. If you're buying a new digicam, make room in your budget for a larger memory card. Before buying, you'll need to know which media card format your camera accepts; check your camera's specifications online and in its users manual for this info. Also check the amount of

memory the camera can handle, as many recent digicams have a 2GB-or-less memory limitation. Here are the basics about memory card formats available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)). **FC**

BY BLAINE FLAMIG

### CF (CompactFlash)

- **Makers:** Lexar, PNY, SanDisk
- **Card types:** Type I (3.3mm) and Type II (5mm); devices that use Type II cards usually also accept Type I cards
- Relatively large form factor
- Used in Nikon, Canon, Sony, Samsung, and Olympus D-SLR cameras
- CF card sizes range from 32MB to 64GB
- **Cards of note:** Lexar Pro 1GB CF (\$39.99; [www.lexar.com](http://www.lexar.com)); SanDisk 1GB Ultra II (\$39.99; [www.sandisk.com](http://www.sandisk.com))
- **For more information:** CompactFlash Association ([www.compactflash.org](http://www.compactflash.org))



### Memory Stick

- **Makers:** Sony, SanDisk
- **Card types:** Memory Stick, Duo, Pro, Pro Duo, Micro (M2)
- Relatively small form factor
- Used in Sony digicams and camcorders
- Memory Stick card sizes range from 32MB to 8GB
- **Cards of note:** Sony 512MB Memory Stick PRO Duo, \$34.99 ([www.sonystyle.com](http://www.sonystyle.com)); SanDisk 1GB Memory Stick PRO Duo, \$39.99
- **For more information:** Memory Stick ([www.memorystick.com](http://www.memorystick.com))



### SD (Secure Digital)

- **Makers:** Lexar, PNY, SanDisk
- **Card types:** SD, miniSD, microSD, SDHC (High Capacity), miniSDHC
- Very small form factor; most popular format for digicams
- Fast read/write times
- Used by digicam manufacturers such as Canon, Casio, HP, Kodak, Panasonic, Pentax, and Samsung
- SD card sizes range from 32MB to 8GB
- **Cards of note:** SanDisk 512MB miniSD, \$19.99; Lexar 1GB High-Speed SD, \$45.27 ([www.lexar.com](http://www.lexar.com))
- **For more information:** SD Card Association ([www.sdcard.org](http://www.sdcard.org))



### xD-Picture Card (extreme Digital)

- **Makers:** Fujifilm
- **Card types:** Type M, Type H
- Very small form factor; Olympus integrates a special panoramic mode into xD cards for its digicams
- Used in Fujifilm and Olympus cameras
- xD-Picture card sizes range from 16MB to 2GB
- **Cards of note:** Fujifilm 512MB xD-Picture Card, \$34.99 ([www.fujifilm.com](http://www.fujifilm.com)); Fujifilm 1GB xD-Picture Card, \$49.99
- **For more information:** xDMedia ([www.olympusamerica.com](http://www.olympusamerica.com); [www.fujifilm.com](http://www.fujifilm.com))



# Optical vs. Digital Zoom

See The Difference



**T**he zoom lens is a wonderful tool. You can zoom out to capture a wide-angle landscape or zoom in and use the camera's telephoto capabilities to bring a distant subject even closer. When shopping for a point-and-shoot camera (as opposed to a D-SLR), you'll notice that each camera features an optical zoom and a digital zoom. Before you get too enthusiastic about having the extra telephoto capabilities of a digital zoom, it's important to understand the difference between optical and digital zoom and how they affect image quality.

For both examples, we will imagine that we're taking pictures with a 5MP camera that is set to capture images at the highest quality level.

An optical zoom uses the camera's lens (optics) to magnify the view. When

using only the optical zoom, the camera will capture an image file containing 5MP of image information. Because only the camera's lens is used to capture the full amount of megapixels, your image will be sharper and smoother than when using a digital zoom.

A digital zoom, which you can usually turn on or off in the camera's set-up menu, engages when you've zoomed in as far as you can with the optical zoom. When looking at the camera's LCD or through the viewfinder, it appears that the camera is zooming in even more, but in reality, the camera has simply enlarged a part of the image and cropped the rest. By cropping the image, the camera has discarded some of the image's pixels, leaving you with an image that contains far fewer pixels than one shot with an optical zoom. For example,

using our previous 5MP camera, we take a picture that engages digital zoom. The camera crops out 2MP of image data so the image file now contains only 3MP of image data. Because we're using a 5MP camera, however, the camera must produce an image with 5MP of data. In order to do this, the camera interpolates (invents) the missing pixels and adds them to the image file. The resulting image is almost always softer than the original, and individual pixels are visible when the picture is enlarged.

So, when you're shopping for a digital camera, ignore the digital zoom specifications. And, for the best image quality and ability to make larger prints, use only the optical zoom when shooting. **FG**

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BY THEANO NIKITAS



# Digital Imaging Shopping Tips

## Photo Printer

BY MARTY SEMS

A

lthough online developing services and some photo labs may be cheaper to use, a quality photo printer gives you ultimate control over the way your digital camera prints turn out. Keep these tips in mind as you shop.

Photo printer manufacturers tout technical specifications, such as droplet size and resolution, in their advertisements. What really matters, though, is how a printer's photos look to your eyes. Go to your local Best Buy and ask to see sample prints from various models—preferably prints of the same photo. Look for fine details, such as individual strands of hair, as well as overall image quality. It's easy to be wowed by eye-popping color, but remember that you can adjust color and brightness in any printer's settings.

Consider a printer that can make long-lasting prints, meaning that its photos won't fade for at least a few decades when properly stored or displayed. "Archival" inks and paper let compatible printers make photos that can last hundreds of years under certain conditions. An example of a printer that's compatible with archival inks is Canon's Pixma iP1800 (\$49.99; [www.usa.canon.com](http://www.usa.canon.com)). Of course, you'll need to use the recommended inks and papers, which may cost more than conventional printing supplies.

Look for a photo printer that can print to the edges of the paper like a traditional print from a photo lab. This is called edge-to-edge or

borderless printing. Also, make sure that a printer can handle paper that's precut to common photo sizes, such as 4x6 and 3x5.

A printer can make decent-looking photos from four colors of ink (cyan, yellow, magenta, and black). However, a printer with a couple of extra colors, such as photo cyan and photo magenta, can really make a big difference. (These photo colors enhance the skin tones of people in your prints, making them look more realistic and lifelike.) If you're really serious about photo printing, and have a serious budget to match, check out some high-end printers with eight, 10, or even 12 colors of ink, such as Canon's 8-color Pixma Pro9000 (\$499.99).

If you can use a photo printer without a computer, so much the better. Many printers let you upload digital photos from your camera's memory card, USB flash drives, and even directly from your camera or phone over a cable or wireless connection. Some photo printers also let you crop your pics, resize them, and edit out red-eye on a little LCD before you print. Some examples are the Epson Stylus Photo R380 (\$129.99; [www.epson.com](http://www.epson.com)) and the HP Photosmart A617 Photosmart Portable Photo Printer (\$129.99; [www.hp.com](http://www.hp.com)).

## SHOPPING CHECKLIST

### ☐ How many colors of ink does the printer use?

- ☐ Four
- ☐ Six
- ☐ Eight
- ☐ 10
- ☐ 12

### ☐ How long will its prints last?

- ☐ 25 years
- ☐ 100 years
- ☐ 200 years
- ☐ Doesn't say

### ☐ What special types of photo paper can it handle?

- ☐ Precut
- ☐ Perforated rolls
- ☐ Card stock

### ☐ Can it print from these devices without using a computer?

- ☐ Memory cards
- ☐ USB flash drives
- ☐ Digital cameras
- ☐ Cell phones

### ☐ How big a photo can it print?

- ☐ 8x10
- ☐ 8.5x11
- ☐ 11x17
- ☐ Panoramic (spread over multiple sheets)

# 5 Must-Have Accessories

## Digital Cameras

**D**igital cameras capture the memories of events large and small in our lives, and the list of possible accessories is nearly endless. Here are five, though, that we find indispensable.

### 1 Memory Cards

There is nothing worse than running out of room for more pictures—especially when you're on a raft ride down the Colorado River or somewhere more remote. Different digital cameras have different

memory card slots, so make sure you know what kind of card your camera takes. If you don't know, visit the Memory Cards & Sticks page on

Best Buy's Web site and click the Memory Card Finder link. From there, you'll be prompted to select from drop-down lists your Device, the Manufacturer, and the Model, and a page of specs will pop up telling you not only what kind of media your camera takes, but also detailing the manufacturers and cards (and capacities) available for your camera.



### 2 Camera Case

You'll find bags and cases in all sizes and with all levels of protection. If you're taking your camera across town to your niece's birthday party, you may want a bag that'll hold a few accessories, too.

The Lowepro Rezo TLZ 10 (\$25.99; [www.lowepro.com](http://www.lowepro.com)) digital camera case will tote a medium-sized digital SLR and an extra lens, and you can attach the removable

shoulder strap. If you're going snorkeling along the Molokini Crater and want to capture images of some of the many species in this underwater sanctuary, you'll need waterproof housing for the camera. Most waterproof cases are designed to fit specific cameras; for instance, the Canon WP-DC700 (\$239.99; [www.usa.canon.com](http://www.usa.canon.com)), provides underwater protection for the Canon Power-Shot A60 and A70 series of digital cameras.



### 3 Tripod

If you have loads of family pictures, but you're not in any of them, it's time to get a tripod and join the group. The original Joby Gorillapod (\$21.95; [www.joby.com](http://www.joby.com)) supports point-and-shoot digital cameras that weight up to 9.7 ounces, and it has flexible legs with grips, so you can wind the legs around stair rails and other odd shapes if there's no flat surface available.



### 4 Photo Printer

The beauty of a digital camera is you print only those pictures you intend to keep. You don't have to pay for pictures where the lighting isn't quite right, your son's eyes are closed, or you accidentally lopped off your mother-in-law.

When you've decided on which pictures you want, you can take advantage of the Epson Stylus R800 photo printer (\$399.99; [www.epson.com](http://www.epson.com)), with its eight individual ink cartridges, to print 4x6, 5x7, 8x10 glossy or matte photos.



### 5 Soft Cloth

It's nearly impossible to keep your digital camera free of fingerprints, but you need to use care cleaning off the prints—particularly from the lens.

Avoid using water or cleaning agents on your camera, and never use anything on the lens that might scratch it or leave a residue. The Digi-

Power DPS-LC Lens & Screen Cleaner (\$8.99; [www.digipowersolutions.com](http://www.digipowersolutions.com)) is a soft, microfiber cloth that is safe to use when wiping fingerprints, makeup, and other smudges off of your camera's lens and body. **FG**



BY KATHRYN DOLAN

# Top 10 Things To Know About Digital Cameras



**E**ven though digital camera prices have dropped significantly in the last few years, buying your first—second, or even third—digital camera is a big investment. Knowing what questions to ask before you go shopping will help you make the right decision when choosing a digital camera.

## 1 No experience necessary.

What kind of digital camera experience is required to operate the camera to its fullest? The answer, of course, depends on what type of camera you're looking for. Does the camera have manual exposure controls, such as shutter and aperture priority? Or is it strictly point-and-shoot with helpful scene modes?

## 2 Print sizes.

How many megapixels does the camera have, or, more importantly, what is the largest size print that can be made from that camera? More megapixels doesn't necessarily mean you'll get better pictures, but a camera's megapixel count does affect how large you can print an image. If you don't plan on making large prints, then getting a camera with extra megapixels will be a waste of money and storage space (more megapixels mean larger file sizes, which will fill up your media card more quickly). To determine how many megapixels you need, figure



out how large you want to print your images. The rule of thumb is to multiply the dimensions (in inches) of the print you'd like to make by either 300ppi (pixels per inch) or 200ppi. The ppi indicates the print resolution of the image, and either 300ppi or 200ppi will produce a good print. To make an 8x10 print at 200ppi, you'll need a file that measures 1,600 x 2,000 pixels or a 3.2MP camera ( $1,600 \times 2,000 = 3,200,000$ ). Using the same math, the ideal camera resolution for an 8x10 print at 300ppi is 7.2MP.

## 3 Optical zoom range.

What is the optical zoom range of the lens? Remember, pay attention to optical zoom range only; don't count the digital zoom, which does nothing more than crop the image to make it appear "closer" and may degrade image quality. A zoom goes from wide angle, which is good for landscapes, to telephoto, which is good for photographing distant subjects. Although most point-and-shoot cameras offer limited options in wide angle, there are many choices for telephoto. Choose a zoom that best fits your needs.

## 4 LCD size.

What is the size and resolution of the LCD? Although a 2-inch LCD is perfectly usable, most digital cameras are equipped with 2.5-inch or even 3-inch LCDs, which generally make it easier to compose a shot, read camera menus, and review images. On the downside, larger LCDs will drain batteries faster than smaller ones. Also check the resolution of the LCD; 115,000 pixels is usable, but generally, 235,000 is sharper.

## 5 Optical viewfinder.

All digital SLRs have an optical viewfinder, but very few point-and-shoot

cameras do. An optical viewfinder is handy if an LCD is washed out and difficult to see in bright sunlight and allows you to turn off the LCD to save battery power and still take pictures.

## 6 Type of battery.

Many digital cameras use proprietary, rechargeable Li-Ion batteries and come with a charger, so you're good to go right out of the box (after charging the battery, of course). Other cameras use AA batteries and usually come with a set of alkaline or specialized, one-time-use

If you want to connect your camera to a television so you can view and share your images, the camera needs a video-out connection.

batteries. On the plus side, AA batteries are ubiquitous, so it's easy to pick up a set if your camera runs out of juice while you're on vacation. But alkaline batteries don't last very long, and even longer-lasting nonrechargeable batteries designed for digital devices (such as those from Energizer and Panasonic) run out and need to be discarded and replaced. A more economical—and environmentally sound—solution is to pick up one or two sets of NiMH rechargeable AA batteries and a charger.

## 7 Battery life.

Battery life is generally measured according to CIPA (Camera & Imaging Products Association) standards. In order to list a CIPA battery life rating, manufacturers must follow guidelines,

including using flash for 50% of the test shots and leaving the LCD on throughout the testing. You can usually find a camera's CIPA rating on the manufacturer's Web site.

## 8 Media card.

What type of media card does the camera use? Most digital cameras—including sub-\$1,000 digital SLRs—use SD cards, which come in different capacities and speeds. The number of images you can fit on a card depends on the camera's megapixel count and the resolution or quality level you select when shooting. Determine the maximum number of images you want to put on the card; that will help decide what capacity card you need. Also, find out if the card is SDHC (Secure Digital High Capacity)-compatible and will work with high-capacity (4GB) SD cards. Only cameras with an SDHC designation (available on most manufacturers' Web sites) are capable of using a card with more than a 2GB capacity.

## 9 Video-out connection.

If you want to connect your camera to a television so you can view and share your images, the camera needs a video-out connection. Cameras equipped with video-out should come with an AV cable for hooking the camera up to your TV.

## 10 Accessories.

Accessories—available for both point-and-shoot and D-SLRs—may include an external flash, which provides more powerful lighting than the built-in flash, or even an underwater housing to protect your camera when you're SCUBA diving and snorkeling. And, of course, with a D-SLR, you can buy additional lenses. **FG**

BY THEANO NIKITAS

# Digital Imaging Glossary



**Confused**—If you're confused about what certain terms on that camera box mean? Use this glossary to help decode the world of digital photography.

**aperture**—An iris-like diaphragm opening that can expand and contract the lens opening to let you control the amount of light that passes through it, thus affecting the exposure. The term “f-stop” is used interchangeably with aperture.

**burst mode**—Where the camera can take several shots (up to 10) consecutively, usually in one second.

**CCD**—Charge-coupled device, which is the camera's image-sensing component. It converts light into energy that can be stored as digital data on your camera.

**depth of field**—The area of a photo that is in focus.

**digital zoom**—Magnifying an image digitally by cropping it and filling in the rest with interpolated pixels, thus degrading the quality. Even though the numbers seem impressive, never choose a camera based on digital zoom.

**f-stop**—See aperture. Smaller f-stop numbers mean a wider lens opening; larger f-stop numbers mean a narrower lens opening.

**ISO**—For digital cameras, the ISO setting measures the sensitivity to light (similar to how it does with film). Digital camera ISO settings, such as 200, 400, etc., should capture photos as if one were using film with such a speed.

Lower ISO settings mean you need more light, and vice versa.

**LCD**—The screen on the back of the camera that lets you see a live-action view of your subject, your photo after you've taken it, or both.

**lens**—The apparatus on the front of the camera that gathers and directs light towards the imaging device. In a digital camera, the lens probably has both an optical zoom and digital zoom.

**megapixel**—Approximately 1 million pixels. The higher the megapixel count, the higher the resolution and the more you can crop, which means (in general) better-quality photos.

**memory card**—Because digital cameras have very little on-board memory, they need a flash memory card to store more than a dozen or so images. The type of memory card you need depends on your camera make and model. Some of the most popular memory cards are Secure Digital, MultiMediaCard, Compact Flash, and Sony Memory Sticks. In general, memory cards are quite small.

**noise**—Small statistical variations among pixels that lead to a (usually) minor distortion of color in a photo.

**optical zoom**—The ability to move the lens physically closer to your subject. With optical zoom, the higher the number (such as 5X or 10X), the better. When choosing a camera, always consider the optical zoom, not the digital zoom.

**resolution**—The number of pixels in an image. The higher the resolution,



the more detail and quality in a photo. Resolution is measured in a proportion (such as 2,272 x 1,704).

**shutter**—A mechanism that opens and closes to allow light to pass through the lens. You can usually control the shutter's speed.

**shutter speed**—The length of time a camera's shutter is open to let light through the lens to hit the sensor, which records the image. This is expressed in fractions of a second: for instance, a shutter speed of 1/250 means that the shutter speed is 1/250th of a second.

**viewfinder**—The small opening in the camera that the user looks through to frame a shot. Some digital cameras don't have a viewfinder; instead, use the LCD to frame the shot.

**white balance**—Light levels are adjusted electronically to ensure whites (and thus other colors) are pure, leading to more lifelike color. White balance can usually be manually adjusted, too.

## Which Camera Is Best For You?

If you're a little confused about the most important features in a digital camera, you're not alone. In this chart, we compare features from select digital cameras available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)), and we also explain what these features mean. If that still has you cross-eyed, we recommend the models for certain lifestyles.

		Point & Shoot		
What It Is	What It Means	Canon PowerShot A570 IS	Canon PowerShot SD800 IS	HP Photosmart R837
Resolution	In general, more pixels mean bigger, clearer prints	7.1MP	7.1MP	7.2MP
Optical zoom	Moves the lens physically closer to your subject	4X	4X	3X
Memory card	Removeable card that stores your photos in your camera	SD/SDHC/MMC	SD/SDHC/MMC	SD/SDHC
LCD size	The LCD is the display on the back of the camera	2.5 inches	2.5 inches	3 inches
Battery life	Based on how many shots you can take on a single charge	350 images	270 images	300 images
ISO	Light sensitivity; the higher the ISO, the greater the ability to take photos in low-light situations	Auto; Manual: 80, 100, 200, 400, 800, 1,600	Auto; Manual: 80, 100, 200, 400, 800, 1,600	Auto; Manual: 100, 200, 400
Perfect for		Families who will be shooting in a variety of settings and conditions	Intermediate and advanced digicam users	Busy parents who will keep the camera in a diaper bag or purse
Coolest feature		Image Stabilizer Technology	Intelligent Flash	In-camera design gallery
MSRP		\$279.99	\$299.99	\$229.99



Canon PowerShot A570 IS



Canon PowerShot SD800 IS



HP Photosmart R837



Kodak EasyShare Z612



## DSLRs

	Kodak EasyShare Z612	Olympus Stylus 770 SW	Sony Cyber-shot DSC-T100	Canon Digital Rebel XTi	Nikon D40
	6.1MP	7.1MP	8.1MP	10.1MP	6.1MP
	12X	3X	5X	EF-S 18-55mm f/3.5-22*	18-55mm f/3.5 - f/5.6 ED II AF-S DX Zoom-Nikkor lens*
	SD/MMC	xD-Picture Card	Memory Stick Duo/PRO Duo	CompactFlash	SD/SDHC
	2.5 inches	2.5 inches	3 inches	2.5 inches	2.5 inches
	N/A	220 images	340 images	300 images	470 images
	Auto; Manual: 80, 100, 200, 400, 800	Auto; Manual: 100, 200, 400, 800, 1,600	Auto; Manual: 100, 200, 400, 800, 1,600, 3,200	Auto; Manual: 100, 200, 400, 800, 1,600	Auto; Manual: 200, 400, 800, 1,600
	Users who aren't quite ready for a D-SLR but have outgrown a point-and-shoot	Active users who will shoot while camping, boating, skiing, or during other high-impact activities	Users who want a full-featured camera in a small package	Confident camera users experienced with using SLRs	A newbie to the D-SLR arena
	Dual-lens technology	Shockproof and crushproof body	5X Carl Zeiss optical zoom lens	Self-Cleaning System	The price—excellent for a D-SLR
	\$349.95	\$379.99	\$399.99	\$899.99	\$599.99

\*These two lenses are for D-SLR cameras, and thus, there's no established equivalent to optical zoom. Talk to your Best Buy Digital Imaging specialist for more information.



Olympus Stylus 770 SW



Sony Cyber-shot DSC-T100



Canon Digital Rebel XTi



Nikon D40

## Which Digital Camcorder Is Right For You?

**D**igital camcorders come in a number of formats: DVD, hard drive, MiniDV, and high-definition are the most common. By comparing the following digital camcorders available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)), you can determine which format best fits your style.

		DVD		
What It Is	What It Means	Sony 3.0MP Handycam DCR-DVD508	Canon 5.39MP DC50	Hitachi 8GB DZHS300A
LCD screen size	Diagonal length of viewing screen	2.7 inches	2.7 inches	2.7 inches
Optical zoom	The number of times the lens can enlarge or reduce the field of view. The better type of zoom	10X	10X	25X
Digital zoom	The number of times the camcorder can magnify a portion of an image. May result in loss of resolution	20X	200X	1200X
Recording speeds	The type of speed and (if available) maximum amount of time that can be recorded in each	HQ: 20 min. SP: 30 min. LP: 60 min. (single layer)	XP: 20 min. SP: 30 min. LP: 60 min. (single layer)	XTRA: 110 min. FINE: 180 min. STD: 360 min. (to hard drive)
Memory card	Type of flash memory cards compatible with the camcorder (cards not included unless noted)	Memory Stick Duo	miniSD	SD
Digital still resolution	The number of megapixels the camcorder can capture in still images	3MP	5MP	0.3MP
Lines of resolution	Number of lines of horizontal resolution. The higher the number, the greater the detail	530	768	480
Weight	Weight of the camcorder (without battery, unless noted)	1.25 pounds	1.1 pounds	15.375 ounces (with battery)
Perfect for		Novices who want to learn on a loaded camcorder	Home movie enthusiasts	Those who want to record in large blocks of time
Coolest feature		Smooth slow recording for analyzing quick motions at slow speeds	Histogram display for viewing brightness of still images as you shoot	One-second quick start for immediate recording.
MSRP		\$899.99	\$799.99	\$599.99



Sony 3.0MP Handycam DCR-DVD508



Canon 5.39MP DC50



Hitachi 8GB DZHS300A



JVC 30GB GZ-MG155

	Hard Drive		MiniDV	MiniDV/HD	High-Def
	JVC 30GB GZ-MG155	Sony 60GB DCR-SR82	JVC GR-D770	Canon HV20	JVC HD Everio GZ-HD7
	2.7 inches	2.7 inches	2.7 inches	2.7 inches	2.7 inches
	32X	25X	34X	10X	10X
	800X	2000X	800X	200X	200X
	Ultra: 430 min. Fine Norm Eco: 37.5 hours	HQ: 14 hours SP: 21 hours LP: 41 hours	SP LP	SP: 80 min. LP	HQ-VBR LT-VBR CBR
	SDHC/SD	Memory Stick Duo and Pro	SD/MMC	miniSD	SD
	1.07MP	1MP	0.3MP	3.1MP	2.1MP
	540	520	520	1,080	1,080
	11.2 ounces	14 ounces (with battery)	14.4 ounces	1.2 pounds	14.4 ounces
	PictBridge-compatible	Included Handycam Station enables one- click disc burning	Special effect modes include classic film, strobe, and twilight	24p Cinema mode, so you can capture video with the same frame rate profes- sional filmmakers use	The ability to play back video in true high-definition
	Those wanting a lightweight, long- recording camera	Those who want to edit their movies on their PC	Those looking for an affordable, compact model	For home theater owners	Anyone who loves high-def
	\$599.99	\$749.99	\$279.99	\$1,099	\$1,699



Sony 60GB DCR-SR82



JVC GR-D770



Canon HV20



JVC HD Everio GZ-HD7



## Which Photo Printer Is Right For You?

If you print digital photos at home frequently, or would like to, then a dedicated photo printer may be a better option than an all-in-one. Photo printers at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) offer a variety of features in a wide range of prices.

What It Is	What It Means	Epson Picture-Mate Snap PM 240	Epson High-Definition R260	Epson Stylus R800
<b>Photo print speed</b>	How fast it can print one image	45 seconds (4x6)	13 seconds (4x6)	45 seconds (5x7)
<b>Resolution</b>	Dots per inch (or dpi)	5,760 x 720	5,760 x 1,440	5,760 x 1,440
<b>Ink cartridges</b>	How many cartridges the printer uses	1	6	8
<b>Paper sizes</b>	Sizes of paper compatible with the printer	4x6	8.5x11.5, 8.5x14, A4, B5, A5, A6, half letter, executive, custom sizes	Letter, legal A4, statement, executive, custom, 4x6, 5x7, 8x10, panoramic, and more
<b>PC-free printing</b>	The ability to print images directly from camera	Yes	Yes	No
<b>Memory card</b>	Type of compatible flash memory	CompactFlash, SD, SDHC miniSD, MMC, Memory Stick, and more	No	No
<b>Wireless connectivity</b>	The ability to communicate with other peripherals with no wires	Yes, with optional Bluetooth print adapter	No	No
<b>Dimensions</b>	Height x width x depth	5.7x8.5x6 inches	11.1x17.7x21 inches	7.8x19.5x12.1 inches
<b>Perfect for</b>		Photographers on the go	Scrapbookers	High-gloss prints
<b>Coollest feature</b>		Can operate on rechargeable battery (not included)	Produces border-free images in four print sizes/prints on CDs and DVDs	Included holder for printing on paper rolls
<b>MSRP</b>		\$149.99	\$99.99	\$399



Epson Picture-Mate Snap PM 240



Epson High-Definition R260



Epson Stylus R800



Canon Selphy Compact Photo Printer DS810

	Canon Selphy Compact Photo Printer DS810	Canon PIXMA Photo Printer iP6700D	Canon PIXMA Photo Printer Pro9000	HP Photosmart Portable Photo Printer A617	Kodak EasyShare 5300 All-In-One
	63 seconds (4x6)	47 seconds (4x6)	30 seconds (4x6)	39 seconds (4x6)	28 seconds (4x6)
	4,800 x 1,200	9,600 x 2,400	4,800 x 2,400	4,800 x 1,200	4,800 x 1,200
	1	6	8	1	2
	4x6, credit card, photo stickers	Letter, legal, credit card, 4x6, 4x8, 5x7, 8x10, #10 envelopes	Letter, legal, 4x6, 4x8, 5x7, 8x10, 13x19, #10 envelopes	4x6, 4x6.5, 4x8, 5x7, 4x12	A, A4, 3x5, 4x6, 4x8, 4x12, 5x7, 6x9, 8x10, 11x14
	Yes	Yes	Yes	Yes	Yes
	CompactFlash, SmartMedia, Microdrive, MMC plus Memory Stick Duo and PRO Duo, miniSD, and xD-Picture Card with optional adapter	CompactFlash, SD, MMC, Memory Stick/PRO, SmartMedia, Microdrive, plus others (some with optional adapter)	No	CompactFlash, SD, MMC, Memory Stick/Duo, xD-Picture Card, plus miniSD with optional adapter	CompactFlash, SD, MMC, Memory Stick, Memory Stick Pro, xD-Picture Card, Microdrive
	Yes, with optional Bluetooth print adapter	Yes, with optional Bluetooth print adapter	No	Yes, with optional Bluetooth print adapter	Yes
	3.9x8.7x8.7 inches	7.3x16.9x12 inches	7.6x26x14 inches	5.1x9.9x4.6 inches	8.8x18.8x14.7 inches
	Those wanting a low-cost printer	Those wanting high-res photos	Serious photographers	Those wanting quick fixes for image problems	A home office user on a budget
	Compact size	Two-sided printing	Supports wide variety of paper types, including fine art	HP Photo Fix button for automatic corrections	Photo prints cost around 10 cents with Kodak Value Pack (not included)
	\$149.99	\$179.99	\$499.99	\$129.99	\$199.99



Canon PIXMA Photo Printer  
iP6700D



Canon PIXMA Photo Printer  
Pro9000



HP Photosmart Portable Photo  
Printer A617



Kodak EasyShare 5300  
All-In-One

# TV On Your Time

## Watch & Record Live Television With A PC Tuner



re late nights at the office keeping you from “The Office”? Feeling grey because life’s responsibilities are standing between you and McDreamy? You don’t have to miss out on your favorite programs; with a PC tuner, or TV tuner, you can watch, control, and record live TV on your PC or laptop as you would with a DVR (digital video recorder).

Setting up a PC tuner typically means installing hardware and software and configuring them. Once completed, you can use the tuner and software (usually proprietary) to control those DVR abilities. Configure a tuner with your cable TV set-top box, for example, and you can fast-forward, pause, and reverse your way through regular weekly recordings.

There are a few caveats concerning PC tuners; for instance, your PC or laptop needs a healthy supply of hard drive space to store your recordings. A modern CPU and ample system memory (256MB or more) will reduce performance-related bottlenecks. Depending on the tuner, you may need to open the PC’s case to install the tuner in a card slot on the PC’s motherboard. Additionally, use an antenna to get the best TV reception indoors and outdoors, especially if you want to pick up free, OTA (over-the-air) high-def TV signals.

Many PC tuner makers include DVD-authoring software so you can burn recordings straight to DVD, provided your system has a DVD burner, such as Sony’s DRU-830A 18X DVD±RW (\$79.99; [www.sonymstyle.com](http://www.sonymstyle.com)). Say you schedule nightly recordings of “Good Eats” to watch on your laptop during your morning commute to work. Add a DVD burner to the mix and you can burn those “Good Eats” recordings to DVD and watch them on a home-theater system DVD player.

PC tuners come in two form factors: external USB models and internal video card-based tuners. For a video card tuner, you’ll need to open the PC’s case and insert the card, such as AMD ATI’s TV Wonder 650 (\$131.99; [www.amd.com](http://www.amd.com)), into a PCI (Peripheral Component Interconnect) slot. The slot requirement excludes notebook PCs. For laptops, there are USB tuners, such as Pinnacle’s PCTV HD Pro Stick (\$129.99; [www.pinnaclesys.com](http://www.pinnaclesys.com)). Some USB models look like

pocket-sized, removable flash memory drives; others are larger and more box-shaped. Regardless of the style, USB models are easy to set up: Just plug them into an available USB port.

Many tuners, including the two previously mentioned, bundle an EPG (electronic program guide) and remote control to assist so you can watch, schedule, control, and record live TV and DVR content.

As with many tuners, the TV Wonder 650 bundles an IR blaster, which you can use with the tuner’s remote to sync with and control your cable/satellite box; an FM receiver; and S-Video and RCA connections to attach to a DVD player, DVR, cable/satellite box, VCR, camcorder, etc. The Pro Stick has an AV adapter to connect to devices. It also bundles video-editing software and integrates options to record programs directly to certain portable media players, including the iPod video and Sony PSP.

Although you’ll find support for NSTC (National Standard Television Committee; a common standard for analog TV transmission in North America) signals in seemingly every tuner today, increasingly, more tuners also support OTA HD signals, including the Pro Stick and TV Wonder 650. The quality of HD signals you receive, though, will depend greatly on using the proper antenna and the strength of the ATSC (Advanced Television Systems Committee; a newer standard for North American digital TV transmission) signal you can obtain. **PG**

### Hone In On The Right Antenna

The Consumer Electronics Association’s AntennaWeb.org page can help pinpoint the antenna best suited for your area. Pinnacle’s PCTV HD Pro Stick bundles a portable, telescopic, high-gain antenna; an antenna is an optional purchase with the AMD ATI TV Wonder 650. Acquiring the strongest ATSC signal, however, often comes down to using a multidirectional antenna that can draw signals from a 360-degree radius and using the tuner in areas unobstructed by tall buildings, hills, and other large, potentially signal-blocking structures. ●

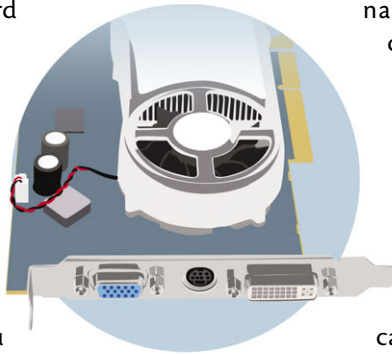
BY BLAINE FLAMIG



# Getting A Great Graphics Card

## What You Need To Know

**S**everal years ago, new computer specs used to be all about processor speed and hard drive size. Those components are still important, but more and more these days, the graphics card is demanding its share of consideration. The computer is no longer just about text and word processing; people want to see something nice on their fancy new flat-screen monitors. And that's where the graphics card comes in. To make sure you get the right card to fit your needs, there are a few basics you should know.



First, do you need a standalone card, or will an integrated card work for you? If you spend most of your time in 2D using word processing applications, spreadsheets, and email, a low-cost, integrated graphics card will probably work for you. An integrated card means one in which the graphics capabilities are included as a part of the motherboard chipset.

On the other hand, if you plan on doing any gaming or want to watch a lot of video or even TV on your computer, integrated graphics cards just don't have the 3D rendering power to properly display these images. Even the latest OS from Windows, Vista, requires so much

memory—among other things—to run the new Aero graphical user interface that you'll need a dedicated graphics card to handle it.

The second thing to consider is AGP (Accelerated Graphics Port) vs. PCI-E (PCI Express). These refer to the two types of graphics cards, named for the slot the card occupies on the motherboard. Your motherboard will likely only support one type. AGP is the older, slower standard. Most new PCs use PCI-E, and if you have the option and can afford it, that's the better way to go.

Finally, give some thought to price and features. The graphics card market is dominated by two manufacturers: ATI and Nvidia. Trying to sort through each card's chipset specs and features can be mind-bending, so the best strategy might be to choose a card based on price. Cards in the sub-\$150 range will do fine for nongaming apps. Spend \$200 to \$400 for a card that will do well with most games and give you a broad range of features, including the ability to use more than one monitor at once. The over-\$600 range (yes, it exists) is reserved for serious gamers who want serious bragging rights. **FG**

BY JENNIE SCHLUETER

## The Basics

**B**ecause we don't buy them often, buying a graphics card can be intimidating. It's not so bad if you know a few basics.

- Evaluate your needs: Will an integrated graphics card work for you?
- Decide between AGP and PCI-E.
- If you are overwhelmed with the specs and features, choose a card based on price. ●

## Swap It Out

**M**any motherboards with integrated graphics will also have an AGP (Accelerated Graphics Port) or PCI-E (PCI Express) slot so you can add a dedicated graphics card later if you want. This is a great option if you want to save money when you initially buy the computer but find you need to upgrade your graphics capabilities down the road. Usually the dedicated card will override the integrated graphics once it's installed, but you should check your motherboard literature before proceeding with the installation. You will want to also check which type of card your motherboard supports, AGP or PCI-E, and how many slots it offers. (AGP only offers one.) ●

# Laptop Survival Kit

What You'll Need On The Road



Wireless Notebook Laser Mouse 6000  
\$54.95 • [www.microsoft.com](http://www.microsoft.com)

**T**hese days, laptops are just as capable as their desk-bound counterparts. Many people buy laptops because they provide everything you need, everywhere you go. Wireless networks at home and hotspots around town mean you'll always be able to get online, too. Here are a few things you'll want to take with you to make sure you have the best experience while out and about.

## In The Bag

There are many different styles of notebook carrying cases to choose from. Some cases have wheels and a pull-out handle, which is especially convenient if you'll be trekking through airport terminals. Backpack-style cases, such as the Targus TXL617 17-inch Notebook Backpack (\$69.99; [www.targus.com/us](http://www.targus.com/us)), work well for city dwellers who walk to work. Whichever style you choose, make sure there is also enough room for your other essentials, including a mouse, USB drive, and a cell phone. Finally, if you have a laptop with a 17-inch screen, make sure you buy a large enough case, as some are only made to fit a 15-inch screen.

## Wireless Mouse

Trackpads are great, but many people find it difficult to use them for extended periods, so road warriors will want to invest in a wireless mouse. A couple key features to look for are long battery life and perhaps a battery life indicator. Some mice even come with an on/off switch to conserve battery life. A laser mouse, such as the Microsoft Wireless Notebook Laser Mouse 6000 (\$54.95;

[www.microsoft.com](http://www.microsoft.com)), may work better than an optical mouse for mobile users because laser technology makes it possible to use the mouse on any surface. And if you need to use the mouse for presentations, consider one that has a long wireless range and maybe even a magnifying feature to highlight on-screen details of a PowerPoint presentation, for example.

## Portable Power

Even the best notebook batteries don't last terribly long, especially if you're watching a movie, so you'll want to make sure you always have your AC adapter along when you're on the go. Most notebooks come with one, but if you've misplaced yours, you can probably find one at a retailer such as Best Buy. Just make sure you get one that works with your particular make and model, as many AC adapters are made specifically for a certain brand of computer. For instance, the Sony VGP-AC19V10 (\$89.99; [www.sonymstyle.com](http://www.sonymstyle.com)) works on most Sony VAIO notebooks.

## On-The-Go Storage

Something else you might also like to have on hand when you're away from home is a USB drive. These handy devices are tiny but can store plenty of data so you can transfer files from your home computer to your notebook and vice versa. We like the SanDisk Cruzer Micro USB Flash Drive (\$79.99; [www.sandisk.com](http://www.sandisk.com)). Its 4GB capacity and retractable USB connector make it a great travel companion. **FC**

BY JENNIE SCHLUETER



# Must-Have Software

## Our Shopping Short List

**T**here are certain tasks for which almost everyone uses a computer. They are the reasons you buy a computer, generally—things such as sending email, surfing the Web, word processing, and photo and video editing. Sometimes you can get the software that lets you do one or more of these tasks when you buy your computer, but more often than not, you'll have to buy the software you need. Here's a look at our suggested best buys.

### Productivity

There are a few players in this arena, but the only real contender is Microsoft Office ([www.microsoft.com](http://www.microsoft.com)). Prices and included programs vary depending on which Office configuration you want and whether you're a first-time buyer or upgrading from a previous edition, but the standard home office/student edition includes Excel for spreadsheet management, PowerPoint for creating presentations, and Word for word processing. Note, however, that the Home and Student edition of the newly released Office 2007 doesn't include the email client Outlook.

### Security/Antivirus

It's not the most exciting PC purchase, but investing in quality security and antivirus software to protect your computer will be well worth it. Symantec's ([www.symantec.com](http://www.symantec.com)) Norton line of

products is ideal for home and home office users. Internet Security 2007 (\$69.99) is a good product for protecting you from viruses, spyware, and other threats you'll find online. But if you're looking for something with a broader range of capabilities, try Norton SystemWorks. In addition to protecting you from viruses and spyware, the Standard Edition (\$69.99) offers many other utilities, including a drive defragmenter and data recovery tools.

Another good option for security and antivirus software is Webroot's Spy Sweeper with Antivirus (\$39.95; [www.webroot.com](http://www.webroot.com)). As you browse, this tool will protect you from spyware and viral threats. It can also sweep your system to check for and eradicate existing threats. Like most security software, both Spy Sweeper and Norton require yearly subscription fees in order to receive continued support and the latest security updates.

### Photo & Video Editing

Photo and video editing on a home PC is wildly popular, so it makes sense that there are many software choices in this category. Which you choose will depend a little bit on your intentions and capabilities. If you want software that can help you get serious, professional-quality results and

you feel confident in your ability to use a high-end program, we'd recommend something from Adobe. The company's Photoshop Elements (\$99.99; [www.adobe.com](http://www.adobe.com)) and its Premier Elements 3.0 (\$99.99) offer photo- and video-editing (respectively) prowess that even professionals love.

For those of you who want something to manage your home video, Roxio's line of products might be more your speed. Roxio Easy Media Creator 9 Suite (\$99.99) doesn't offer some of the more advanced tools professionals may look for, but it's still a quality, go-to video editor. Corel's Paint Shop Pro Photo XI for Windows (\$99.99; [www.corel.com](http://www.corel.com)) is another user-friendly option for the video editor in all of us. **FG**

BY JENNIE SCHLUETER

### Accessory

Instant Immersion Spanish Deluxe v. 2  
\$49.99 • [www.topics-ent.com](http://www.topics-ent.com)

If you have time in your busy schedule for a little self-education, load an Instant Immersion program, such as Spanish Deluxe v. 2, and learn a foreign language. Instant Immersion takes a multimedia approach to language learning, so you'll have print work that includes games and activities, and you'll watch and listen to audio and video instructions and exercises.





# Leave It To The PC Pros

Best Buy's  Can Get It Done

**T**oday's computers can handle your entertainment, financial, shopping, communication, and business needs like never before. But from the moment you power on your new PC, you'll have to fight spyware, viruses, and online predators; troubleshoot and repair error messages; configure new and old hardware and software; and regularly install updates and patches. Aren't computers great?

## Send In The Geeks

Like g-men with pocket protectors, the agents of Best Buy's Geek Squad ([www.bestbuy.com/geeksquad](http://www.bestbuy.com/geeksquad)) are there to handle all of your PC setup, repair, and installation needs.

**New PC setup and security.** The Geek Squad agents can streamline your system with over 100 in-depth tweaks; install and configure security software and other software updates; get rid of unnecessary software that comes loaded on

your computer; create a restore CD; and even offer secure online storage.

**Repairs and upgrades.** Best Buy's team can also repair locks, crashes, and general poor performance on your PC. The Geek Squad's most basic offering includes software fixes, virus and spyware removal, and general cleaning. You can also upgrade to get security and privacy software installed and configured. You can even hire the Geek Squad to install your operating system.

**Networking and Internet.** If you want to communicate more efficiently among multiple computers, the Geek Squad can help you with that, too, as well as with setting up a PC network in your home; connecting two network-capable devices

(such as gaming consoles, computers, print servers, and more); and even with securing your wireless network.

**Data protection.** If you have data you just can't lose (and we all do), the Geek Squad offers both a one-time backup service and an automated backup service. The Squad can also clean and remove sensitive files from a hard drive you're planning to sell or discard.

## Who You Gonna Call?

Once you've made the decision to buy a new PC, you aren't on your own to keep it working. Just call your friendly local Geek. **PC**

BY ANDREW LEIBMAN

## Available Services

**I**f it involves your computer, Best Buy's Geek Squad can help. Here's a list of the computer services your local Geek Squad agents can sort out. And they even make house calls.

- Set up and secure your computer
- Perform repairs and upgrades
- Protect and save your data
- A la carte services

## Price Breakdown

**T**o get your PC in tip-top shape, Best Buy's Geek Squad offers a range of services that are guaranteed to help you get the most out of your computer. (Prices are accurate at press time.)

- Standard Security and Performance Package: \$129 (in-store); \$229 (in-home)
- Advanced Security and Performance: \$149 (in-store); \$249 (in-home)
- Premium Security and Performance: \$199 (in-store); \$299 (in-home)
- Advanced Diagnostic With Repair: \$199 (in-store); \$249 (in-home)
- Advanced Diagnostic, Repair, and Prevention: \$299 (in-store); \$349 (in-home)
- Operating System Install (software not included): \$129 (in-store); \$249 (in-home)
- Network Installation (two devices or computers): \$159 (in-home)
- 30-Minute Vista Basic Training: \$39 (remote phone support)
- Wireless Security Setup: \$49 (remote phone support)
- One-Time Data Backup/Transfer: \$99 (in-store); \$229 (in-home)
- Automated Data Backup: \$129 (in-store); \$229 (in-home)
- Clean and Remove: \$59 (in-store)

# Computing Shopping Tips

## An LCD Monitor For Your Desktop PC

BY TRACY BAKER

L

CD technology has improved, screen sizes have increased, and prices have fallen dramatically. If you're in the market for one of these bright, crisp, colorful displays, take a look at the following tips before you buy.

The most important thing to know about an LCD is its native resolution, which is the number of color pixels that make up the screen. The monitor will look its best when it's set to that resolution. Choosing a higher or lower resolution forces the LCD to scale the image, which makes things look fuzzy. For example, square 19-inch displays often have a native resolution of 1,280 x 1,024; widescreen 20-inch displays often use 1,680 x 1,050; and widescreen 24-inch displays often support 1,920 x 1,200.

Sometimes, an LCD is damaged and pixels get "stuck," permanently displaying a solid color. Some stores and manufacturers have a cut-off for the number of stuck pixels a monitor can have before you can get a refund or exchange. Because there's no way to fix a damaged or stuck pixel, see if you can set up the LCD at the store; look at an all-white or all-black background and check for stuck pixels before you buy.

Before you buy an LCD monitor, check your computer's documentation to see if its video card has DVI output. If it does, get a digital LCD as opposed to an analog LCD. Analog LCDs (or digital LCDs that are connected via an analog output like VGA, composite, or S-Video)

are less crisp and reproduce color poorly compared to a digital LCD connected via a digital output.

Many of today's LCDs use a wide-screen format, much like an HDTV, where the screen is wider than tall, although you can still find older, square-format LCDs. The type you choose should depend on how you plan to use it. Widescreen displays are terrific for watching widescreen movies and working with multiple programs at the same time (because the programs display side-by-side). Widescreen displays work well for multimedia because you can place editing tools off to the side and still use a large portion of the display. Square monitors are suited to viewing documents that are taller than they are wide.

LCDs look best when viewed directly as opposed to from an angle. Most LCD bases let you tilt the screen up, but few let you tilt it down. If you plan to place the monitor higher than eye-level, make sure the base will let you tilt the monitor down.

Some LCDs have USB hubs built into the frames, so you can connect USB devices, such as digital cameras, keyboards, and mice, directly to the monitor instead of to the USB ports on the back of your PC.

### SHOPPING CHECKLIST

☐ What's the LCD's native resolution?

☐ What type of monitor?

- ☐ Analog
- ☐ Digital

☐ What types of inputs does it have?

- ☐ VGA
- ☐ DVI
- ☐ S-Video
- ☐ Composite

☐ Is it a widescreen display?

- ☐ Yes
- ☐ No

☐ Are there stuck pixels?

- ☐ Yes
- ☐ No

☐ Integrated USB hub?

- ☐ Yes
- ☐ No

☐ Notes

# Must-Have Accessories

## Computers

If you have a computer, you're undoubtedly going to want a few accessories to go with it. Here, we'll mention five that we consider necessities to computing experiences.

**1 Software:** The following programs are must-haves for any computer: A security program and a productivity suite. For comprehensive security, look to Symantec Norton Internet Security 2007 (\$69.99; [www.symantec.com](http://www.symantec.com)). It protects your PC from viruses, spyware, and other malicious programs, and its firewall blocks threats coming from the network. The email scanner prevents malicious programs from taking hold and helps protect you from social-networking and phishing scams. For office productivity suites, Microsoft Office 2007 is the gold standard. There are packages available at many price points, but Microsoft Office Standard 2007 (\$399.99 new, \$239.99 as an upgrade; [office.microsoft.com](http://office.microsoft.com)) features Word, PowerPoint, Excel, and Outlook 2007, which let you accomplish word processing, create presentations, compile spreadsheets, and send and receive email.



**2 External Storage:** An external drive, such as the Maxtor OneTouch

III (\$219.99; [www.maxtorsolutions.com](http://www.maxtorsolutions.com)), lets you back up your important data. Its 500GB of space will give you ample room to back up your entire system or just the pictures of your kids, financial data, and maybe even emails from friends that you'd hate to lose if your hard drive fails. You might consider getting an external DVD-RW/CD-RW drive, such as the Samsung SE-W184M (\$125.99; [www.samsung.com](http://www.samsung.com)), so you can back up your data to DVD and store the discs somewhere outside your home.



**3 Printer:** If you occasionally need a hard copy of a document or you like to print your digital photos, you'll appreciate the Epson Stylus Photo RX580 (\$199.99; [www.epson.com](http://www.epson.com)). This all-in-one device lets you print, copy, and scan documents, and you can also print borderless 4x6 pictures PC-free directly from your camera or memory card. You'll be able to replenish your ink supply at Best Buy, too: A black Epson

Claria HD Ink Jet Cartridge is \$17.99, and color cartridges are \$15.49 per color.



**4 Backup Power:** Spring and summer can be stormy, with lightning strikes and power outages, which can wreak havoc with delicate electronic equipment. Protect your equipment (and data) with an APC BE650R (\$79.99; [www.apc.com](http://www.apc.com)) surge protector. All eight of the outlets provide surge protection, and four of the eight include a battery backup that'll give you about 15 valuable minutes during a power outage so you can save your data and turn off your computer.



**5 Cleaning Supplies:** Computers present unique cleaning challenges because you shouldn't use water or cleaning solutions to clean any of the components. Falcon Safety Products ([www.falconsafety.com](http://www.falconsafety.com)) makes products that are safe to use on electronic devices. Double up on the cleaning and protection with the Dust-Off compressed air and Antistatic Monitor Wipes (together \$16.99). The air blows dust and crumbs from your keyboard, and the wipes are safe to use on notebook screens, as well as LCDs and CRTs. **FG**

BY KATHRYN DOLAN



# Top 10 Things To Know About Computers

**N**o matter what your skill level, there are a few basics everyone should know in order to enjoy the most productive, safest computing experience possible. Here are our Top 10.

**1 Buy a good surge protector.** If you're in the market for a new computer now, it's smart to make sure you know exactly what extras you'll need once you get home. Besides the keyboard, mouse, monitor, and tower, you'll want to get a good surge protector

that will keep your new investment safe from damage as a result of a power outage or electrical surge. A UPS (uninterruptible power supply) is even better than a surge protector because it has a battery that keeps the power flowing smoothly even after an outage. This will



give you time to properly shut down the computer to avoid data loss.

**2 Use a firewall.** If you plan to go online, you need to install and use a firewall. There are many third-party products available, and some also come with antivirus software or additional security tools. Another option is to use Windows XP's built-in firewall. Whichever firewall you decide to use, make sure you keep it enabled and set to the product's recommended settings. Just be sure that Windows XP's firewall is disabled before you install a third-party firewall.

**3 Keep antivirus software up-to-date.** Another must-have in the computing software category is some type of antivirus or security program. The trick to ensuring these products do their job is that you have to keep them up-to-date. Most programs will have a method for allowing you to manually (or your computer to automatically) check for updates so the software can detect new viruses, scams, and the like. Keep up your end of this deal and your computer will be that much safer.

**4 Take care of your hard drive.** Everyday tasks, such as adding and deleting data or installing and uninstalling programs, can cause files to become fragmented on your hard drive, meaning files from one program can be spread out across the drive instead of in one spot. This slows your computer down as it tries to locate each necessary piece of a program. To clean up your drive, use the built-in defragmenter that comes with Windows XP (click Start, All Programs, Accessories, System Tools, and Disk Defragmenter) or buy a third-party defragmenter.

**5 Shut down your PC.** It used to be that everyone recommended you leave your computer running at all times. Previous-generation components—especially hard drives—couldn't

take the wear and tear of frequent on/off patterns. The larger issue these days is heat. Keeping your drive cool is one of the best ways to keep it running happily. Shutting down your PC for the night, when you're away for the weekend, or when you go on an extended vacation gives your components a chance to rest and cool off. This will also help conserve energy and give your OS a chance to flush its system, so to speak, of any temporary files and other detritus that might slow it down. At the very least, you should put your computer in Hibernate or Sleep mode when you'll be away from your desk for a while.

**6 Back up your data.** Even if you have been vigilant about keeping your computer running well, it is likely that you will experience a computer crash at some time. Whether it's a problem with your operating system or a burned-out hardware component, unless you have backed up the information on your computer, you may not be able to get it back—ever. Avoid this headache and heartache by developing a regular backup schedule. One simple way to secure your information in another location is to save it to an external drive once a week.

**7 Know when to call the pros.** If you run into a computer problem you can't fix, don't be afraid to seek help. Clicking through error messages or putting up with slow processing speeds isn't just annoying; it can also be a sign of a larger problem. Before you lose your valuable time and data, get a professional to help put things right. There are many options out there, including Best Buy's Geek Squad. This "24-hour computer support task force" offers carry-in, phone, and on-site support. The squad also makes house calls.

**8 Learn how to formulate a secure password.** Passwords aren't effective unless you choose ones that are easy for you to remember but hard

for others to guess. The password should be eight to 14 characters long and should use a combination of alpha, numeric, and symbol characters. And don't write it down! To help you remember, try using the first characters in a meaningful sentence, like this: Mbi16o73! (My birthday is 16 of 73!). Also make sure you use different passwords for different accounts, so your bank account password isn't the same as the password required to log on to your PC.

**9 Be careful about giving out your email address.** Some Web sites require an email address before they will let you do things such as read content or view real-estate pictures. If you want to access this content without the risk of receiving unwanted email, set up a free email account with a provider such as Excite ([www.excite.com](http://www.excite.com)) or Hotmail ([www.hotmail.com](http://www.hotmail.com)) and then use that address instead of your regular address when you sign up for things that you don't need to follow up with later.

**10 Budget for the extras.** Shopping for new computers these days can be tempting. It's pretty easy to get a system for around \$500, but don't let that low number fool you. Remember that owning a computer comes with some additional expenses. For starters, some computers at the sub-\$500 price point don't include a monitor, so you'll want to watch for that and figure it in if necessary. If you don't already have one, you'll need to buy a printer and USB cable if you want to print anything. Also factor in your monthly ISP fee and look into whether you'll have to pay for a high-speed modem and installation or if they're included. Other extras could include productivity software such as Microsoft Office (you won't get this at sub-\$500 either), security software subscription fees, printer ink and paper, and a digital camera. **FG**

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BY JENNIE SCHLUETER

COMPILED BY KATHRYN DOLAN

# Glossary Of Computing Terms

**Bluetooth**—A short-range wireless standard that connects devices, such as computers, printers, PDAs, and digital cameras, and allows the devices and their users to communicate with one another.

**broadband**—Network connections that transmit data at high speeds. Consumers have a few options for accessing the Internet via a broadband connection. If your cable company offers it, you can get connections at speeds with theoretical maximums of 8 to 11Mbps (megabits per second). You can also subscribe to DSL (Digital Subscriber Line) through your phone company; DSL supports maximum speeds of 3 to 5Mbps. And, although not widely available, some power companies are exploring the possibility of offering high-speed Internet access to their customers, as well.

**CRT (cathode-ray tube)**—An older display technology for TVs and computer monitors that features an electron gun lighting up phosphor dots that line the inside of a glass tube. When the phosphors are lit, they display the on-screen image. CRTs consume a lot of power and are heavy and bulky. Additionally, CRTs are an analog technology, so although many CRTs support digital signals, they degrade when converted to analog.

**dual-core processor**—This integrated circuit, which controls the computer, features two processors, each with its own cache, on a single die or chassis. In a dual-core configuration, the operating system has two processors to handle instructions, speeding up the computer and its ability to multitask.

**Ethernet**—A widely used LAN protocol in which computers and networks are physically linked.

**firewall**—Hardware or software that limits access by a network or another outside source to your computer; it also may limit your computer's access to the network. These security measures are designed to protect your computer from outsiders who'd like to exploit it in some way. By the same token, firewalls may prevent infected files on your computer from accessing the larger network and spreading the problem to other users.

**LAN (local-area network)**—A group of computers that are physically connected so they can communicate with one another and share information.

**LCD**—This digital display technology sandwiches liquid crystals between thin sheets of glass. The crystals twist and

untwist to allow and block light from a backlight, forming the images you see. LCDs are thinner, lighter, and consume less power than CRTs. Initially used mostly in notebook PCs, you'll now find LCD TVs and computer monitors, as well as LCDs on digital cameras, cell phones, portable DVD players, and PDAs among others.

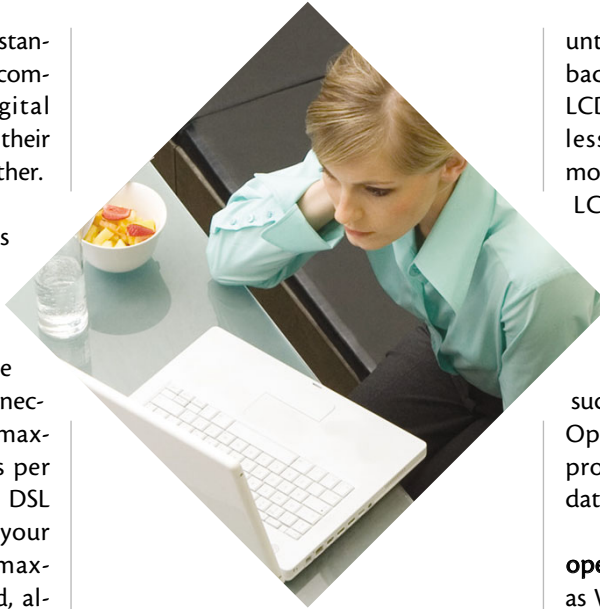
**office suite**—Productivity software, such as Microsoft Office, StarOffice, and Open Office, that often includes word processing, spreadsheet, presentation, database, and financial components.

**operating system**—The software, such as Windows XP, Windows Vista, or Mac OS X, that controls a computer and its peripherals and serves as the primary interface for the users.

**processor**—Also known as a microprocessor or the CPU (central processing unit), this integrated circuit controls the computer.

**RAM**—Random-access memory is a standard type of memory that's read from and written to by the CPU and hardware.

**upgradeable**—This refers to the ability to add or swap out hardware to boost a computer's performance, increase its speed, or replace a defective or obsolete device or component. For instance, you may wish to add more memory; replace an old CRT with a new, widescreen LCD display; or swap out an older graphics card for a new one that features an ATSC TV tuner so you can watch digital TV on your computer. Look for a computer with expansion slots or empty bays.



## Which Notebook Computer Is Best For You?

A notebook computer is a pretty big purchase for most people, and it's usually a bit overwhelming, too. This chart compares the features and specs from several models available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) and recommends models based on certain lifestyles.

What It Is	What It Means	Compaq Presario 430 C501NR	Gateway MT6821	HP Pavilion dv9208nr
<b>Operating system</b>	The software (usually Windows or Mac OS X) that controls your computer	Windows Vista Home Basic	Windows Vista Home Premium	Windows Vista Home Premium
<b>Processor</b>	The chip that controls the computer (in general, the bigger the number, the better)	1.73GHz Intel Celeron M 430	1.6GHz Intel Core 2 Duo Mobile	1.6GHz AMD Athlon 64 X2
<b>Hard drive size</b>	How much the information the computer can hold	80GB	160GB	120GB
<b>Optical drives</b>	Drives that can read and write discs such as CD-Rs, DVD-RWs, or HD DVDs	DVD-ROM/CD-RW	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW with LightScribe
<b>RAM</b>	Memory that is read from and written to by the processor and hardware. The more, the better.	512MB PC2-4200 DDR2	2GB PC4200 DDR2	1GB PC2-4200 DDR2
<b>Screen size</b>	The diagonal measurement of the notebook's screen	15.4 inches	15.4 inches	17 inches
<b>Media card reader</b>	A slot that lets you use media cards without a separate peripheral	No	Yes	Yes
<b>Coollest feature</b>		Hi-def LCD	4-in-1 media card manager	LightScribe direct-disc labeling
<b>Perfect for</b>		College students or anyone on a budget	A home office	Entertainment buffs looking for a desktop replacement
<b>MSRP</b>		from \$479.99	\$1,099.99	from \$949.99



Compaq Presario 430 C501NR



Gateway MT6821



HP Pavilion dv9208nr



Samsung Ultra Mobile PC Q1



	Samsung Ultra Mobile PC Q1	Sony VAIO VGN-FE880E/H	Toshiba Satellite U205-S5057	Apple MacBook MA700LL/A	Apple MacBook Pro MA611LL/A
	Windows XP Tablet PC	Windows Vista Home Premium	Windows Vista Home Premium	Mac OS X 10.4 Tiger	Mac OS X 10.4 Tiger
	900MHz Intel Celeron M ULV	1.66GHz Intel Core 2 Duo Mobile	1.66GHz Intel Core 2 Duo Mobile T5500	2GHz Intel Core 2 Duo Mobile	2.33GHz Intel Core 2 Duo Mobile
	40GB	160GB	160GB	80GB	160GB
	None	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW
	512MB DDR2	2GB PC2-5300 DDR2	1GB PC-4200 DDR2 SDRAM	1GB PC2-5300 DDR2 SDRAM	2GB PC2-5300 DDR2 SDRAM
	7 inches	15.4 inches	12.1 inches	13.3 inches	17 inches
	Yes	Yes	Yes	No	No
	Size—it's tiny but full-featured	Built-in Web camera	Fingerprint reader	Loaded with software	iSight Web cam
	Users who like to stay connected on the road without extra bulk	Users who like to stay connected to family and friends	Road warriors	Shutterbugs and amateur video editors	Those looking for a robust, full-featured system that can grow with them
	from \$1,099	\$1,349.99	\$1,299.99	\$1,299	\$2,799



Sony VAIO VGN-FE880E/H



Toshiba Satellite U205-S5057



Apple MacBook MA700LL/A



Apple MacBook Pro MA611LL/A

## Which Desktop PC Package Is Right For You?

**W**hen you shop for a bundled desktop PC system, you'll see lots of similar deals. The comparison chart below shows how subtle—yet important—the differences can be. If you can't find one of these packages on Best Buy's Web site ([www.bestbuy.com](http://www.bestbuy.com)), visit or call your local Best Buy store, and it should be available there.

What It Is	What It Means	Compaq Presario 356 SR2150NX	eMachines T3604 Desktop Bundle	eMachines T5082 Desktop Bundle
<b>Processor</b>	The chip that controls the computer (in general, the bigger the number, the better)	Intel Celeron D 356, 3.33GHz	Intel Celeron D 356, 3.33GHz	Intel Pentium 4 631, 3GHZ
<b>Hard drive size</b>	How much information the computer can hold	120GB	120GB	160GB
<b>RAM</b>	The memory a computer uses to run all PC applications	512MB	512MB	512GB
<b>Optical drives</b>	Drives that can read and write discs such as CD-Rs, DVD-RWs, or HD DVDs	Double-layer DVD±RW/CD-RW	DVD-ROM/CD/RW	Double-layer DVD±RW
<b>Operating system</b>	The software (usually Windows or Mac OS X) that controls your computer	Windows Vista Home Basic	Windows Vista Home Basic	Windows Vista Home Basic
<b>Loaded software</b>	Preinstalled applications for performing specific tasks	Microsoft Works 8, Adobe Reader 7.0, DVD Play	Works 8.5, Adobe Reader 8.0, Money 2006	Works 8.5, Money 2006, Adobe Reader 8.0
<b>Screen size</b>	The diagonal measurement of the monitor's screen	Compaq 17-inch flat-screen CRT	17-inch widescreen flat-panel TFT LCD	17-inch widescreen flat-panel TFT LCD
<b>Printer</b>	Peripheral for printing documents	HP Photosmart Photo Printer D5069	Canon PIXMA Photo Printer iP1800	Canon PIXMA Photo Printer iP1800
<b>Best for</b>		Digital photo enthusiasts	Those who want a sleek form factor	Everyday productivity
<b>Coollest feature</b>		LightScribe-enabled DVD burner	Flat-panel display	Geek Squad USB cord and surge protector
<b>Best Buy price (before any rebate)</b>		\$529.97	\$639.97	\$689.97



Compaq Presario 356  
SR2150NX



eMachines T3640  
Desktop Bundle



eMachines T5082  
Desktop Bundle



Gateway GT5404  
Desktop Bundle

	Gateway GT5404 Desktop Bundle	Gateway GT5408 Desktop Bundle	Gateway GM5420 Desktop Bundle	HP a1720n E6300 Desktop Bundle (No.1)	HP a1720n E6300 Desktop Bundle (No. 2)
	Intel Pentium D 915 with Intel EM64T, 2.8GHz	Intel Core 2 Duo E4300, 1.8GHz	Intel Core 2 Duo E6300, 1.86GHz	Intel Core 2 Duo E6300, 1.86GHz	Intel Core 2 Duo E6300, 1.86GHz
	250GB	320GB	320GB	320GB	320GB
	1GB	1GB	2GB	1GB	1GB
	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW	Double-layer DVD±RW/CD-RW	SuperMulti double-layer DVD±RW/CD-RW with LightScribe	SuperMulti double-layer DVD±RW/CD-RW with LightScribe
	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium
	Works 8.5, Money 2006, Digital Image Starter, CyberLink Power2Go	Works 8.5, Money 2006, Digital Image Starter, CyberLink Power2Go	Works 8.5, Money 2006, Digital Image Starter, CyberLink Power2Go	Roxio Creator, Reader 7.0, muvee autoProducer	Roxio Creator, Reader 7.0, muvee autoProducer
	Gateway 17-inch flat-panel TFT LCD	Gateway 19-inch flat-panel TFT LCD	19-inch widescreen flat-panel TFT LCD	HP 17-inch flat-panel TFT LCD	HP 19-inch widescreen TFT LCD
	Canon Pixma Photo Printer iP1800	Canon Pixma Photo Printer iP1800	Lexmark Multifunction All-In-One X1270	HP Deskjet Printer D4160	HP Deskjet Printer D4160
	Home office productivity	Video and photo editing and viewing	Managing multimedia	Photo and video editing and disc burning	Complete multimedia management
	Dual-core CPU and Intel Viiv technology	15-in-one media manager	Integrated TV tuner	SuperMulti DVD records up to 8.5GB of data	Accessories: USB cable, surge protector
	\$829.97	\$1,029.97	\$1,269.97	\$1,004.97	\$1,859.97



Gateway GT5408 Desktop Bundle



Gateway GM5420 Desktop Bundle



HP a1720n E6300 Desktop Bundle (No. 1)



HP a1720n E6300 Desktop Bundle (No. 2)

# Music DOWNLOAD SERVICES

## Find The One That's Right For You

If you have an MP3 player with space for thousands of songs, but you only own a few dozen CDs—or you're hungry to discover new music—head to the Internet and experience the joy of music download services.

As the music industry and technology have evolved and kept up with the

demand for legal downloadable music, two methods have emerged. In one, users subscribe to services which, for a monthly fee, give them unlimited access to millions of songs that they can play on their computers or MP3 players; the catch is that once you stop paying your monthly subscription fee, the songs will no longer play. The other option is to

buy the songs you like, one at a time or as an entire album. Once you've bought them, they're yours.

If you're not using an iPod, there are services with extensive collections of music (and sometimes video) for download or streaming; iPod users have fewer choices. Here's a look at what's out there:

### SERVICE

iTunes  
([www.itunes.com](http://www.itunes.com))



#### PERFECT FOR



iTunes is Apple's media player software and online media store, where you can download music, audio-books, movies, TV shows, games, and free podcasts. iTunes syncs with iPods and features 3.5 million songs (99 cents each), 20,000 audio-

books (\$2.95 and up), and 200 TV shows (\$1.99 each), including "24" and "LOST." Rather than a subscription-based model, with iTunes you pay per song (or TV show or movie, etc.). The software works with both Macs and Windows PCs, so you can download files and watch or listen to them on your computer. Once you buy a song, you can burn it to an unlimited number of CDs, listen to it on an unlimited number of iPods, or play it on up to five computers. Music purchased at the iTunes Music Store is only playable on iPods.

### SERVICE

Rhapsody  
([www.rhapsody.com](http://www.rhapsody.com))



#### PERFECT FOR



Rhapsody has two subscriptions: Rhapsody To Go (\$14.99/month) and Unlimited (\$9.99/month). With Rhapsody To Go, you have unlimited access to millions of tracks that you can download to a compatible MP3 player or a computer. With Unlimited, you can listen to music only through your computer; it's like having access

to an Internet radio station where you get to choose all the music. If you find a song you love, you can buy it for 89 to 99 cents per song. Last fall, Rhapsody expanded its service by partnering with Best Buy and SanDisk ([www.sandisk.com](http://www.sandisk.com)) to create the Best Buy Digital Music Store ([www.bestbuy.com](http://www.bestbuy.com)), which provides access to the entire Rhapsody collection but also offers exclusive tracks and special deals to users who subscribe through Best Buy. The individual tracks you buy at Rhapsody or through Best Buy play on iPods and other MP3 players; songs you download from the subscription service won't play on iPods, but they do play on most other MP3 players.



## SERVICE

**Yahoo! Music**  
(music.yahoo.com)



### PERFECT FOR



Bargain hunters

Yahoo! Music offers music and music videos, including original performances exclusive to its service, available as streaming content (for listening, not burning) or for download (79 cents per song). With the Yahoo! Music Unlimited subscription service (\$8.99/month

or \$71.88/year), you'll have access to more than 2 million songs that you can listen to from any Windows XP/Vista computer. To transfer songs to your MP3 player, subscribe to Yahoo! Music Unlimited To Go (\$14.99/month or \$143.88/year). Most music players play Yahoo! Music Unlimited subscription tracks, but iPods will not.

## SERVICE

**Napster**  
(www.napster.com)



### PERFECT FOR



Variety-seekers

The one that started it all is still in the game. The new Napster, which merged with AOL Music Now, is no longer a renegade peer-to-peer file-sharing program; it now offers more than 3 million songs for legal download. All of the songs are available free; you can listen to all 3 million songs three times each

without paying a penny. After three listens, however, you have to buy the song (99 cents per song; \$9.95 per album) or subscribe. As a Napster subscriber (\$9.95/month), you can listen to all the music you want on your PC; as a Napster To Go (\$14.95/month) subscriber, you can transfer music to your MP3 player. Napster is not compatible with iPods or Apple computers.

## SERVICE

**Urge** (www.urge.com)

**URGE**

Microsoft and MTV Networks joined to make available more than 2 million songs, which you can buy individually (99 cents each) or listen to an unlimited number of times via the All Access (\$9.95) and All Access To Go (\$14.95) subscription services. With All Access To Go, you can listen through your computer or transfer songs to your MP3 player. Among the special features available at Urge are playlists from celebrities, 130+ Internet radio stations, and blogs and other content related to MTV, CMT, and VH1 shows. Urge is not compatible with iPods or Apple computers.

### PERFECT FOR



Fans of custom playlists

## SERVICE

**eMusic**  
(www.emusic.com)



### PERFECT FOR



Independent music buffs

With a catalog including more than 2 million songs from 13,000 independent record labels, eMusic is a terrific resource for fans of alternative music. If Cat Power or The Pixies grace your CD collection, eMusic will be a treasure trove of music for you from both

emerging and established artists. This music store is also unusual because its files are available as MP3s, which means you can play them on any portable music device, including iPods.

## SERVICE

**MusicGiants**  
(musicgiants.com)



### PERFECT FOR



Audiophiles

MusicGiants bills itself as the source of the highest-quality music downloads on the Internet. It uses the WMA file format and calls its files "HD downloads." Songs cost \$1.29, and most albums cost \$15.29. Most of the music is from four major labels: EMI, Sony, Universal, and Warner

Music Group. The service focuses on music downloads—no video or streaming music. You can burn files you download to CD or transfer them to an MP3 player that supports Windows Media Player 9 (not iPods).

# Kids & Technology

## Two-Way Radios Keep Parents & Kids In Touch

When summer rolls around, our thoughts turn to lazy days at the beach or pool, stomach-churning rides on amusement park roller coasters, and weekend camping trips to a state park.

However, as the experience of 12-year-old Michael Auberry—the Boy Scout lost for three and a half days in the North Carolina woods earlier this year—demonstrates, kids must have a way to keep in touch with their parents or chaperones when on these outings.

Cell phones, as convenient as they are, aren't necessarily the answer. For one thing, their network may not extend to

the places you or your kids like to go. You may also not want to pay monthly fees for cell phone service for your kids or even grant them the privilege of having a phone. Under these circumstances, a better option might be two-way radios.

These radios offer kids and adults the security of instant communication and ease of use.

### Rugged & Ready For The Great Outdoors

A number of manufacturers make two-way radios, including Cobra, Insignia, Midland, and Motorola. This month, we'll focus on the Midland LXT420VP3 (\$59.99; [www.midlandradio.com](http://www.midlandradio.com)) and the Motorola Talkabout T5500R (\$49.99; [www.motorola.com](http://www.motorola.com)) to give you an idea of how two-way radios work. Two radios are included in each set.

Both sets work on two types of wireless channels: FRS (Family Radio Service) and GMRS (General Mobile Radio Service).



Anyone can communicate on FRS channels free, but talking on GMRS channels requires an FCC license (see "License Required").

The Midland radio set is rugged and water-resistant. The radios can communicate up to 16 miles apart (depending on the terrain). With the included belt clips and voice-activation feature, you can use the radios hands-free. In addition, you can get updates from a channel that dispenses weather information 24/7, and a backlight lets you see the display easily at night.

The Hi/Lo power switch lets you determine the amount of power used for transmission, and the auto battery save feature gets as much life out of the batteries as possible. Two rechargeable batteries and an AC adapter are included.

Other features enhance the use of these Midland radios indoors, such as at a mall or exhibition hall, and in crowded areas.



Midland LXT420VP3

Put the radio in silent mode, and all tones—such as the different call tones you can program to identify incoming calls from members of your party—are turned off. The radios operate on 22 channels and with 121 privacy codes, which calculates to 2,662 channel options. With so many possibilities, you can find a channel and code combination that should minimize the amount of outside chatter. And if you want to use a microphone or headphone—sold separately—the radio provides jacks for both.

## Cut Down On Outside Chatter

The Motorola Talkabout has many similar features as the Midland set, except the communication range is considerably less, about eight miles.

## License Required

The Federal Communications Commission governs the wireless communication of two-way radios. Radios can operate on FRS (Family Radio Services) channels, GMRS (General Mobile Radio Service) channels, or both.

Like walkie-talkies, FRS channels enable communications over shorter distances—about a mile—and with less power than do GMRS channels. The FCC has dedicated 14 channels as FRS channels. Anyone can talk freely on FRS channels in the United States.

The GRMS system enables communication within a radius of up to

25 miles. To legally operate two-way radios on GMRS channel, an adult of at least 18 years must apply for and receive an FCC license. Applications for a GMRS license are available at the FCC Web site ([wireless.fcc.gov/uls/index.htm?job=home](http://wireless.fcc.gov/uls/index.htm?job=home)). The license, which requires an \$85 filing fee, is granted for five years. The licensed operator is responsible for the proper use of GMRS channels with his or her family members, including spouse, children, nieces, nephews, and grandparents. ●

## Accessory

DLO iPod nano Shell  
\$19.99 • [www.dlo.com](http://www.dlo.com)

Family camping trips and other overnight adventures aren't complete without some tunes to keep the kids singing around the campfire. However, an iPod will help keep the night peaceful and "Kumbaya"-free for those who are in the depths of some much-needed sleep. Protect that new iPod nano from nature's elements with DLO's new nano Shell for 2G iPod nanos. Choose from Crystal Clear, Shadow Grey, and nano-matching pink, green, and blue.



The combined 22 FRS and GMRS channels, with 38 privacy codes, gives you more than 830 options for keeping interference at a minimum. In addition, the Quiet Talk feature prevents non-Motorola two-way radios from being heard on the channel you choose.

The Talkabout is voice-activated, so you can use it hands-free. Like the Midland set, these Motorola radios have a keypad lock, so you won't unintentionally change your settings.

A rechargeable battery pack powers the Talkabout, as does the AC adapter (both included). When the battery power drops below a certain level, the radio will emit an audible warning to alert you of this fact.

## Safe Out Of Sight

Kids love the freedom their parents give them to have fun out of mom and dad's sight. No matter where you and your family go this summer, from the boardwalk to the baseball stadium, everyone can keep in touch—and keep safe—with the help of a two-way radio set. **FG**

BY RACHEL DEROWITSCH



# Family Plans & Cell Phones For Kids

## Weigh Your Family's Needs



Sony Ericsson W300i Walkman Phone

**B**efore deciding on a cell phone plan for your family, do a little research. Make sure the plan has enough minutes for your family's use and see if you like the phones available with the plan.

### Shared Plans

Prices, phones, and options for shared plans vary by service provider and location. For example, shoppers at the Columbia, Md., Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) can get service plans through Amp'd Mobile, Cingular, Sprint, and Verizon.

Opting for the Cingular Nation FamilyTalk 550, with a two-year contract, lets you share 550 minutes with two lines for \$59.99 per month (\$9.99 more per month for another line). The nice part about most family plans is that you have free mobile-to-mobile calling, so the calls you make to your spouse and children who

are on the same plan don't count against your minutes. With Cingular plans, unused minutes roll over to the next month, and you get unlimited night and weekend minutes, call forwarding, call waiting, caller ID, Internet access, text messaging, three-way calling, and voicemail.

Plan minutes increase incrementally to the FamilyTalk 6000, which costs \$299.99 per month for two lines, and you can add three more at \$9.99 each per month.

### Featured Phones

The Cingular FamilyTalk plans are compatible with an array of phones, and often when you sign a two-year contract, the phone is discounted or the activation fee is waived. Tweens love the Firefly (\$79.99; [www.fireflymobile.com](http://www.fireflymobile.com)), and parents like programming the phone's speed-dial keys and phonebook and securing the controls with a PIN. The Firefly is strictly a

phone; it doesn't have a camera, radio, MP3 player, games, Internet access, or text-messaging abilities.

Your daughter might like the shiny Samsung C417 Red Camera Phone (\$279.99). This attractive flip phone is Bluetooth-enabled and loaded with AIM and Yahoo! Messenger; if she's going to London with her high school band, this GSM (Global System for Mobile Communications), quad-band phone will let her call you in the States so you know she made it safely.

The Sony Ericsson W300i Walkman Phone (\$199.99) lets your teenager load many of his favorite music files, including MP3 and AAC. The W300i sports a digital camera and an FM radio; accesses the Internet; and features a personal organizer with an alarm clock, calculator, calendar, and stopwatch. During air travel, the Flight Mode turns off the phone and radio, but lets kids play games and music files.

A cell phone with the latest bells and whistles will appeal to your kids, but remind them not to send text messages, play games, or take pictures while they're driving or sitting in class. If your child is a wee bit forgetful or has less than nimble fingers, you may also want to pay the monthly fee for phone replacement or hardware insurance. (To read the "Pay-As-You-Go Wireless Phones" article from our May issue, visit [www.firstglimpsemag.com/pay](http://www.firstglimpsemag.com/pay).) **FG**

BY KATHRYN DOLAN



# Wireless Shopping Tips

## MP3 Players

BY RACHEL DEROWITSCH

**S**electing an MP3 player reveals a lot about the buyer's tastes and interests. It's more fun to think about the color and size of the player and which accessories are available, but it's more important to determine if the player will meet your lifestyle demands.

If storage capacity is important, buy as much as you can. In general, the more capacity you buy, the smaller the cost per gigabyte. For instance, the difference between a 2GB iPod nano (\$149; [www.apple.com/ipod](http://www.apple.com/ipod)) and a 4GB nano (\$199) is only \$50. For \$100 more, you can get 60GB in the Creative Zen Vision:M (\$299.99; [www.creative.com](http://www.creative.com)). You can also look for an MP3 player with a memory card slot, such as the 1GB SanDisk Sansa c240 with microSD expansion slot (\$79.99; [www.sandisk.com](http://www.sandisk.com)). Keep in mind, too, that hard drive-based players have greater capacities than flash players.

Buy a player that syncs with your activities. Will you use the player as you commute to work or when you're working out at the health club? A hard drive-based player, with moving internal parts, is better for stationary use, while a lighter, smaller, flash memory-based player is ideal for workouts.

Decide if you want to recharge or replace the batteries in your player. Many MP3 players have a rechargeable battery. Rechargeables offer convenience, especially for players that recharge in a docking station as they're playing. Eventually, however, you'll need to buy a replacement battery or a new player—if you use

the player extensively. Replacing a rechargeable battery isn't cheap. Apple, for example, will replace an iPod battery for \$59 plus \$6.95 shipping & handling. If that cost doesn't appeal to you, look for a player that runs on alkaline batteries that you can replace as needed.

Find out which digital music file formats the player supports, such as WMA, AAC, OGG, and MP3. Then, check out which online music services offer files that work with the player. For instance, Apple iPods (and select cell phones) can play the songs you download from iTunes ([www.apple.com/itunes](http://www.apple.com/itunes)), which are compressed in the AAC format. A host of players from Samsung, SanDisk, Creative Zen, and more can play the file formats available at Rhapsody ([www.rhapsody.com](http://www.rhapsody.com)). If in doubt, look for the PlaysForSure ([www.playsforsure.com](http://www.playsforsure.com)) logo on both the player and the music service. If both have the logo, then you'll know they are compatible.

Gigabytes are important, of course, but music, photo, and video storage aren't the only features available. Other functions include an FM radio, wireless music sharing, built-in voice recorder, alarm clock, calendar, and line-in encoding for recording music directly from a CD player or another playback source.

## SHOPPING CHECKLIST

### ☐ What form of storage do I want?

- ☐ Hard drive
- ☐ Flash

### ☐ What power source do I want?

- ☐ Rechargeable battery
- ☐ Li-Ion
- ☐ Li-Polymer
- ☐ Alkaline battery
- ☐ AA
- ☐ AAA

### ☐ What storage capacity do I want?

- ☐ 512MB
- ☐ 1GB
- ☐ 2GB
- ☐ 4GB
- ☐ 30GB
- ☐ 60GB
- ☐ Other

### ☐ In addition to music playback, what features do I want?

- ☐ Video playback
- ☐ Color display
- ☐ FM radio
- ☐ Voice recorder
- ☐ Wireless sharing
- ☐ Memory card slot
- ☐ Other \_\_\_\_\_

# 5 Must-Have Accessories

## Music Player

Nailing down a list of must-have accessories for an MP3 player is tricky. Just because an iPod dock for the kitchen tops your list, for example, doesn't mean it even cracks an avid jogger's Top 5. Ultimately, though, five general categories stand out, although other notable accessories include extra batteries, cleaning kits, and Bluetooth adapters.

**1 Headphones.** Headphones are the most convenient, portable link to your music. Without a pair that matches you audibly and physically, the experience is diminished. Fortunately, choices are numerous. Styles include wired/wireless earbuds, earcups, and on-the-ear models, and these types cover most uses, including listening to music, gaming, and Internet and office data communications. Earcups completely cover the ear and are well-suited to audiophiles, while earbuds pair well with mobile users (students, mass transit users). Noise-cancelling headphones, such as Sony's MDRSA1000 Open-Air Dynamic Headphones (\$299.99; [www.sonystyle.com](http://www.sonystyle.com)), are becoming increasingly popular because of their ability to eliminate most ambient noise.

**2 Speakers/docks.** It doesn't take much searching online to see how popular and plentiful portable speakers are. They're available in nearly all shapes, sizes, colors, and motifs so you can place them in the bathroom, living room, kitchen, and bedroom inside and the patio, garage, camper, and lakeshore outside. In addition to being portable, most speakers have a dock to recharge your player's battery. Models include the funky JBL On Stage (\$159.95;

[www.jbl.com](http://www.jbl.com)), which accommodates most iPods except the shuffle, and the ultra-portable Logitech mm32 (\$79.99; [www.logitech.com](http://www.logitech.com)), which has a flashlight-like design.

**3 FM transmitter.** Whether you're motoring about in a truck or Trans Am for leisure or work, MP3 players can provide the soundtrack for that motion. To do so, you'll need an FM transmitter that can beam your MP3 player's tunes over your car radio. Connect the transmitter to your player, tune into a designated spot on the dial, and you are listening to music, movies, podcasts, audiobooks, etc. Transmitters range from the basic Belkin TuneFM for Apple iPod (\$49.99; [www.belkin.com](http://www.belkin.com)) to the sophisticated Harmon Kardon Drive+Play for iPods (\$99.99; [www.harmonkardon.com](http://www.harmonkardon.com)), which includes remote controllability of your content, plus a visual interface.

**4 Cases.** Although they're partially a vanity purchase, cases also protect your player from scratches, bumps, water, physical drops, and mishaps that can otherwise shorten your player's life. If you recently bought a new Zune (\$249.99; [www.zune.net](http://www.zune.net)) or Creative Labs Zen Vision: W (\$299.99, 30GB; \$399.99, 60GB; [www.creative.com](http://www.creative.com)), owning a case that protects

your investment is a no-brainer. A few case examples include the inexpensive Microsoft Zune Gear Bag (\$29.99; [www.zune.net](http://www.zune.net)) and the H20 Audio Outdoor Series for the iPod nano (\$39.95; [www.h20audio.com](http://www.h20audio.com)).

**5 Armbands.** Although they're often overlooked, armbands nonetheless can mean the difference between a workout or walk you're proud of and enjoy vs. one that's constantly interrupted by accidental drops and tugging, tangled cords. No matter your sport, an armband, which fits around your bicep, such as Griffin's Tempo (\$24.99; [www.griffintechology.com](http://www.griffintechology.com)), generally offers the most stability and comfort. Otherwise, basic lanyards are inexpensive, yet effective, alternatives for less-strenuous workouts. **FG**

BY BLAINE FLAMIG



JBL On Stage



Logitech mm32



Griffin Tempo

# Top 10 Things To Know About MP3 Players

**F**inding the right digital music player is all about asking the right questions. DRM (digital rights management) and other competing standards have made it tougher than ever to find a player that will meet all of your needs, but here are 10 questions you need to ask while shopping, along with the answers you'll want to hear before committing to a particular device.

**1 Memory capacity.** The theoretical capacities listed for most MP3 players were based on audio recorded at low quality, which makes small file sizes. Songs recorded at higher quality, which is probably what you'll be listening to most often, will take up more space, so you'll fit fewer songs on the player. For example, a player can store three times as many songs recorded at 64Kbps as those at 192Kbps, but the sound quality for the 192Kbps tracks is more than three times better than that of the 64Kbps tracks.

Where storage is concerned, there are eight bits in a byte, 1,024 bytes in a KB (kilobyte), 1,024KB in a MB (megabyte), and 1,024MB in a GB (gigabyte). If you record tracks at 192Kbps, divide that number by eight to get 24KBps. There are 60 seconds in a minute, so that means your audio requires about 1,440KB (1.41MB) of storage per minute or about 84.5MB per hour. Therefore, each gigabyte of memory will hold about 12 hours of 192Kbps audio.

**2 Type of memory.** Hard drives offer relatively high storage capacities at a relatively inexpensive price, but they have a lot of moving parts that tend to break if you drop the device while jogging, which often ruins the player beyond repair. Flash memory (also called solid-state memory) is more expensive per megabyte and gigabyte than hard drives, but because the memory uses no moving parts, it is more durable. Devices that use flash memory are terrific for running or other activities where you may shake or drop your player.

**3 File format support.** Just as digital photos and movies use a variety of file formats, so do digital audio files. You'll see MP3, AAC (Advanced Audio Coding), WMA (Windows Media Audio), and FLAC (Free Lossless Audio Codec) to name a few. If you have already converted or downloaded a large amount of music in a particular format, make sure the player you want can handle it. If not, you can tailor your conversions and downloads to match the capabilities of the device.

**4 File downloads.** This is a biggie. Due to conflicting DRM schemes and other factors, to download tracks directly from Apple's iTunes Store ([www.itunes.com](http://www.itunes.com)), you'll need an iPod. Several subscription-based services, such as Napster To Go ([www.napster.com](http://www.napster.com)), which let you download unlimited amounts of music to a particular player, are only compatible with certain makes and models. Look for the PlaysForSure or Works With

Napster To Go logos when shopping to find devices that are compatible with your favorite services.

**5 Battery charges.** Rechargeable batteries are convenient because you can charge them in the player. When they can no longer hold a charge, however, they are sometimes difficult to replace, and in many cases, opening the case voids your warranty. Check the battery replacement plan and warranty period carefully before buying a digital audio player with an integrated, rechargeable battery.

Removable batteries, such as AAs and AAAs, may be expensive, but they are easy to replace, rechargeable models are available, and you can carry spares for use during long trips.

**6 Accessories.** Having the latest and greatest digital audio player is nice, but often it's better to stick to a tried-and-true model, such as the iPod, for which an abundance of accessories have been designed. Whether you want to hook up your MP3 player to external speakers, integrate it into your car, or do just about anything else, there's likely an iPod-compatible device that can help.

**7 Music/file transfers.** Some players will let you retrieve music from your computer, but not send music to the PC, and only a few let you directly transfer files between devices. When choosing a device, ask exactly what types of transfers it



supports, such as directly connecting to similar devices or easily swapping music back and forth between the device and a PC instead of only allowing a one-way connection. The iPod, for example, won't transfer tracks to a computer unless you use third-party software.

**8 Headphones.** The earbuds that come with even the best digital audio players typically don't offer the quality of a good set of third-party cans. Consider the Philips SHE9500 (\$29.99; [www.philipsusa.com](http://www.philipsusa.com)) or the Shure E4C (\$319; [www.shure.com](http://www.shure.com)) for improved playback quality.

**9 Design and use.** Buy your portable digital audio player based on how you plan to use it. If you want it for heavy-duty workouts, ask about its size and weight and also check to see if any armbands or other accessories are available that will let you easily incorporate the device into your routine. If you're looking to use the player in a car, see what options are available for integrating it into the car's stereo and mounting the device so you can easily see it while driving.

**10 Battery life.** Official battery life measurements are performed in a laboratory and,

as a consequence, don't always match real-world performance. First, ask the salespeople if they have any experience with the battery life of a product you are considering. Then, be sure to ask how long the batteries should last if you listen at a reasonable volume level (loud music consumes more electricity because the headphones require more power). Finally, you might also look for power-cutting options, such as the ability to turn off the screen's back-light and audio normalization (which tones down loud music). **FG**

BY TRACY BAKER



# MP3 Player Glossary

**W**ho doesn't want an MP3 player? It can help you relax, provide motivation, and keep you up-to-date on news. When you head to your local Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) to snag one, make sure you have this glossary so you can choose the perfect model.

**AAC**—Short for Advanced Audio Coding, it is a competitor to the more popular MP3 file format.

**Click Wheel**—Apple's proprietary circular control on the front of the iPod.

**download**—In terms of digital music, downloading happens when you receive a song to your computer through an Internet or other network connection. You'll download songs from music service Web sites such as iTunes, Napster, or Rhapsody.

**DRM**—Digital rights management is a security mechanism for digital media. A common DRM scheme for digital music involves getting a license file to authorize playback of a free or purchased song.

**earbuds**—Small, circular devices you put into your ears that serve the same function as headphones. MP3 players come with their own earbuds, but you can, of course, purchase a separate pair that are more comfortable or of better quality.

**flash memory**—Solid-state memory with no moving parts that is lightweight and small. In terms of MP3 players, a flash-based player is lighter and smaller than a hard drive-based player, and it also won't skip. Thus, they are popular for use during exercising. However, the capacity of a flash drive isn't as large as a hard drive.

**FM tuner**—In MP3 players, a built-in FM tuner lets you listen to local radio.

**hard drive**—Storage in which rigid platters are inside a fixed casing. In terms of MP3 players, a hard drive-based player is heavier and larger than a flash-based player. Because of the moving parts (the platters), hard drive-based players are also prone to skipping. However, the capacities are much larger than flash drive capacities.

**iTunes**—A digital media player application that loads onto your computer that lets you play, organize, and download and purchase music, videos,

podcasts, and television shows for an iPod or computer.

**MP3**—Perhaps the most popular digital audio encoding format. It compresses audio to about one-twelfth the original size while still providing excellent sound. In general, a 1MB MP3 file will last about one minute.

**playlist**—A queue of songs a user creates to play on a computer, burn to a CD, or transfer to a digital audio player. The playlist only includes directions to the location of the songs, not the songs themselves.

**PlaysForSure**—A popular Microsoft certification that ensures portable devices, such as MP3 players, and media, such as digital music and videos, are compatible with each other.

**podcast**—A downloadable episode that is similar to a radio program. A user can subscribe to a podcast for updated episodes, or she can download podcasts one at a time. A podcast is usually available in MP3 format.

**screen**—The display on the front of the MP3 player. A player's screen can either be color or black and white.

**WMA**—Windows Media Audio, a digital audio format created by Microsoft to compete with the MP3 format. WMA files are smaller than MP3 files.

**widescreen**—A screen with a 16:9 aspect ratio. In terms of music players, the Microsoft Zune and the Creative Zen Vision W are two that have wide screens.



## Which MP3 Player Is Best For You?

Pods are cool, sure, but you have other choices when it comes to listening to your tunes. This chart compares the most important—and coolest—features from select MP3 players available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)).

		Hard Drive		
What It Is	What It Means	Apple iPod	Creative Zen Vision W	Creative Zen Vision: M
<b>Memory type</b>	Flash (no moving parts, lightweight, perfect for exercising) or hard drive (moving parts, more capacity)	Hard drive	Hard drive	Hard drive
<b>Capacities</b>	How much memory the player has (on models available at Best Buy)	30GB, 80GB	30GB	30GB
<b>Songs</b>	How many songs the player can hold	7,500; 20,000 (based on 4 minutes per song at 128Kbps AAC)	7,500 (based on 4 minutes per song at 128Kbps WMA)	7,500 (based on 4 minutes per song at 128Kbps WMA)
<b>Video capability</b>	Some MP3 players can play video, as well as music	Yes	Yes	Yes
<b>Colors</b>	Several players offer a variety of color choices	Black, white	Black	Black, white, blue, pink, green
<b>FM tuner</b>	Lets you listen to radio stations	No	Yes	Yes
<b>Music services supported</b>	Not all MP3 players can play songs from all music services	iTunes	AOL Music Now, Yahoo! Music, Napster, Soundbuzz, Audible.com	AOL Music Now, Yahoo! Music, Napster, Soundbuzz, Audible.com
<b>Battery life</b>	How long the battery will last when playing music	14 hours; 20 hours	13 hours	14 hours
<b>Perfect for</b>		Those interested in a storage device as much as a music player	Portable video buffs	Users who like to get their music from a variety of sources
<b>Coolest feature</b>		It's an iPod: Need we say more?	Widescreen (16:9) LCD	Included Personal Organizer software
<b>MSRP</b>		\$249; \$349	\$299.99	\$249.99



Apple iPod



Creative Zen Vision W



Creative Zen Vision: M



Microsoft Zune

## Flash

	Microsoft Zune	Apple iPod nano	Insignia NS-DVB4G	Samsung YP-T9JAB	SanDisk Sansa e280R
	Hard drive	Flash	Flash	Flash	Flash
	30GB	2GB, 4GB, 8GB	4GB	4GB	8GB
	7,500 (based on 4 minutes per song at 128Kbps WMA)	500; 1,000; 2,000 (based on 4 minutes per song at 128Kbps AAC)	1,000 (based on 4-minute songs at 128Kbps WMA)	1,000 (based on 4-minute songs at 128Kbps WMA)	2,000 (based on 4-minute songs at 128Kbps WMA)
	Yes	No	Yes	Yes	Yes
	Black, white, brown	Black, silver, pink, blue, green	Black	Black	Black
	Yes	No	Yes	Yes	Yes
	Zune Marketplace	iTunes	Best Buy Digital Music Store	Best Buy Digital Music Store; Rhapsody	Best Buy Digital Music Store; Napster; Rhapsody
	14 hours	24 hours	20 hours	30 hours	20 hours
	Users who enjoy sharing and who might be hard on their devices	Joggers; iPod lovers who aren't interested in carrying their entire library with them	Active music lovers who don't want to mess with earphone wires	Budget-conscious music lovers; kids	Folks who want more features, such as video and an FM tuner, than an iPod nano
	Wi-Fi lets you share music with other Zune users	Diminutive size	Bluetooth capability	Photo-organization tools	MicroSD expansion slot for more memory
	\$249.99	\$149; \$199; \$249	\$159.99	\$179.99	\$249.99



Apple iPod nano



Insignia NS-DVB4G



Samsung YP-T9JAB



SanDisk Sansa e280R

## Which Cell Phone Is Right For You?

Your cell phone is more than a phone—it can be a camera, music player, text messenger, and fashion statement. All these features and more make the cell phone the must-have electronics device. Compare the features of cell phones available at Best Buy ([www.bestbuy.com](http://www.bestbuy.com)) to help find your next phone, and we provide Best Buy's pricing (as of press time), as well.

What It Is	What It Means	Cingular SYNC a707	LG Cherry Red Chocolate	LG Fusic LX550
<b>Form</b>	The physical style of the phone	Clamshell, internal antenna	Slider, internal antenna	Clamshell, stub antenna
<b>Bluetooth capability</b>	Enables wireless communication with other devices	Yes	Yes	Yes
<b>Internationally compatible</b>	Uses GSM standard used in Europe and Asia	Yes	No	No
<b>Voice-activated dialing</b>	Hands-free dialing	No	Yes	Yes
<b>MP3 player</b>	Plays digital music	Yes	Yes	Yes
<b>Service plan provider(s)</b>	What provider(s) the phone will work with	Cingular	Verizon	Sprint PCS
<b>Dimensions</b>	Thickness and weight	0.8 inches; 3.7 ounces	0.69 inches; 3.53 ounces	0.78 inches; 4.23 ounces
<b>Battery talk time</b>	How long you can talk between charges	4 hours	3 hours	4.5 hours
<b>Perfect For</b>		Those with lots of contacts; phone book holds 1,000	Style-conscious music lovers	Those who like the newest gadgets
<b>Coollest feature</b>		2MP camera	Can record calls up to 1 minute	Direct music and video downloads
<b>Best Buy Price</b> (original; with service plan)		\$349.99; \$29.99	\$299.99; \$79.99	\$349.99; \$49.99



Cingular SYNC a707



LG Cherry Red Chocolate



LG Fusic LX550



Motorola MOTO KRZR K1m



	Motorola MOTO KRZR K1m	Pantech C3	Samsung A930	Sanyo Katana Blue Sapphire	Sony Ericsson W300i Walkman
	Clamshell, internal antenna	Clamshell, stub antenna	Clamshell, internal antenna	Clamshell, internal antenna	Clamshell, internal antenna
	Yes	No	Yes	Yes	Yes
	No	Yes	No	No	No
	Yes	No	Yes	Yes	Yes
	Yes	No	Yes	No	Yes
	Verizon, Sprint PCS, Cingular	Cingular	Verizon	Sprint PCS	Cingular
	0.67 inches; 3.63 ounces	0.76 inches; 2.41 ounces	0.98 inches; 3.98 ounces	0.58 inches; 3.4 ounces	0.9 inches; 3.3 ounces
	4.16 hours	3.5 hours	3 hours	3 hours	9 hours
	RAZR lovers	Those who want a very small phone	Multitaskers	Those who don't want to listen to music on their phones	Music lovers who want long battery life
	Glossy good looks	Flashlight	1.3MP swivel camera captures 10 minutes of video	Large, very bright external and internal displays	FM radio
	\$249.99; depends on provider	\$149.99; \$0	\$299.99; \$0	\$279.99; \$29.99	\$199.99; \$0



Pantech C3



Samsung A930



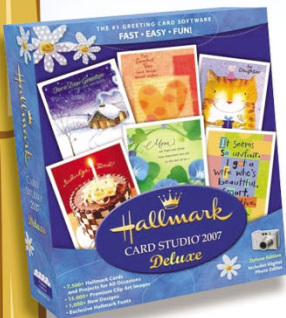
Sanyo Katana Blue Sapphire



Sony Ericsson W300i Walkman

# Beach Party

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Invite everyone in your own style.  
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Summer's here and with it comes dreams of the perfect beach getaway. Forget the travel plans and instead take a peek out your back window: It's time for a beach party! Enjoy some fun in the sun with these gadgets available in Best Buy stores and at [www.BestBuy.com](http://www.BestBuy.com).

**KitchenAid Architect Series  
II Beverage Center**  
Guests will be pretty thirsty after a night of limbo!  
\$1,199.99



**Cuisinart SmartStick  
Hand Blender**  
Nothing says "beach party" like tropical drinks.  
\$51.99



**Waring Pro Ice Crusher**  
For all those tropical drinks.  
\$79.99



**Canon PowerShot 7.1-Megapixel  
Digital ELPH SD750 Camera**  
There's sure to be an abundance of photo ops.  
\$349.99



**Helman Old Fashioned Hot  
Dog Grill Roller**  
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